

TRANSENERIX INC.

FORM 424B5

(Prospectus filed pursuant to Rule 424(b)(5))

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CIK	0000876378
Symbol	TRXC
SIC Code	3841 - Surgical and Medical Instruments and Apparatus
Industry	Medical Equipment, Supplies & Distribution
Sector	Healthcare
Fiscal Year	12/31

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been filed with the Securities and Exchange Commission and is effective. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and we are not soliciting offers to buy these securities in any state or other jurisdiction where to offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED APRIL 27, 2017

**PRELIMINARY PROSPECTUS SUPPLEMENT
 (To Prospectus dated June 22, 2016)**



Shares of Common Stock

Series A Warrants to Purchase up to	Shares of Common Stock
Series B Warrants to Purchase up to	Shares of Common Stock
\$	per Unit

Pursuant to this prospectus supplement and the accompanying prospectus, we are offering up to _____ shares of our common stock, par value \$0.001 per share, Series A warrants to purchase up to _____ shares of our common stock and Series B warrants to purchase up to _____ shares of our common stock. The common stock, Series A warrants and Series B warrants will be sold in units, with each unit consisting of one share of common stock, one Series A warrant to purchase one share of common stock at an initial exercise price of \$ _____ per share, and one Series B warrant to purchase 0.75 shares of common stock at an initial exercise price of \$ _____ per share. Each Series A warrant will be exercisable at any time on or after the date of issuance and will expire one year from the date of issuance, unless terminated earlier in accordance with its terms. Each Series B warrant will be exercisable at any time on or after the date of issuance and will expire five years from the date of issuance. The Series A warrants and the Series B warrants are referred to collectively in this prospectus supplement as the warrants. Each unit will be sold to investors in this offering at a purchase price of \$ _____ per unit. The units will not be issued or certificated. The shares of common stock and warrants will be issued separately but can only be purchased together in this offering. We refer to the shares of common stock issued in this offering and the warrants to purchase common stock issued in this offering, collectively, as the securities. The shares of common stock issuable from time to time upon exercise of the warrants are also being offered pursuant to this prospectus supplement and the accompanying prospectus.

Our common stock is listed on the NYSE MKT under the symbol “TRXC.” On April 26, 2017, the last reported sale price of our common stock on the NYSE MKT was \$1.10 per share. The shares offered hereby and the shares issuable upon exercise of the warrants will be listed on the NYSE MKT. However, 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 national securities exchange.

Investing in our securities involves risks. You should review carefully the risks and uncertainties described under the heading “[Risk Factors](#)” on page S-4 of this prospectus supplement, page 6 of the accompanying prospectus and under similar headings in the other documents that are incorporated by reference in this prospectus supplement and the accompanying prospectus.

	<u>Per Unit</u>	<u>Total</u>
Public offering price	\$	\$
Underwriting discounts and commissions (1)	\$	\$
Proceeds to us, before expenses	\$	\$

(1) We refer you to “Underwriting” beginning on page S-17 of this prospectus supplement for additional information regarding underwriting compensation.

We estimate the total expenses of this offering, excluding the underwriting discounts and commissions, will be approximately \$ _____, which includes underwriting expenses. The above summary of offering proceeds to us does not give effect to any exercise of the warrants being issued in this offering.

The underwriters expect to deliver the securities on or about May _____, 2017, subject to customary closing conditions.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is April , 2017.

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You should rely only on the information contained in this prospectus and in any prospectus supplement (including in any documents incorporated by reference herein or therein). We have not authorized anyone to provide you with any different information. We are offering to sell our securities, and seeking offers to buy, only in jurisdictions where offers and sales are permitted.

ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus, dated June 22, 2016, are part of a “shelf” registration statement on Form S-3 (File No. 333-199998). This document is in two parts. The first part is this prospectus supplement, which describes the terms of this offering of units and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus, including the documents incorporated by reference, provides more general information, some of which may not apply to this offering. Generally, when we refer to this prospectus, we are referring to both parts of this document combined. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or in any document incorporated by reference that was filed with the Securities and Exchange Commission, or SEC, before the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date, the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus. We have not, and the underwriters have not, authorized anyone to provide you with different or additional information. You should assume that the information in this prospectus supplement and the accompanying prospectus is accurate only as of the date on the front of the respective document and that any information that we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus supplement or the accompanying prospectus or the time of any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

As used in this prospectus supplement, the terms “TransEnterix,” the “Company,” “we,” “us,” and “ours” refer to TransEnterix, Inc.

This prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus supplement or the accompanying prospectus are the property of their respective owners.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and information appearing elsewhere in this prospectus supplement and in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information that you should consider before investing in our securities. The following summary is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein. Before you decide to invest in our securities, to fully understand this offering and its consequences to you, you should read the entire prospectus supplement and the accompanying prospectus carefully, including the risk factors beginning on page S-4 of this prospectus supplement and on page 6 of the accompanying prospectus and the documents incorporated by reference herein and therein.

TransEnterix, Inc.

Overview

We are a medical device company that is pioneering the use of robotics to improve minimally invasive surgery by addressing clinical and economic challenges associated with current laparoscopic and competitive robotic options. The Company is focused on the commercialization and further development of its Senhance™ Surgical Robotic System (formerly known as the ALF-X® Surgical Robotic System), or the Senhance System, a multi-port robotic system that brings the advantages of robotic surgery to patients while enabling surgeons with innovative technology. The Company also developed the SurgiBot™ System, or SurgiBot System, a single-port, robotically enhanced laparoscopic surgical platform. The Senhance System has been granted a CE Mark in Europe for laparoscopic abdominal and pelvic surgery, as well as limited thoracic operations excluding cardiac and vascular surgery, but is not available for sale in the U.S. The SurgiBot System is not yet available for sale in any market.

The Senhance System is a multi-port robotic surgery system which allows multiple robotic arms to control instruments and a camera vision system laparoscope. The system features advanced technology to enable surgeons with haptic feedback and the ability to move the laparoscopic camera via eye movement. The system replicates laparoscopic motion that is familiar to experienced surgeons, and integrates 3DHD vision technology. The Senhance System also offers responsible economics to hospitals by offering robotic technology with reusable instruments. In April 2017, the Company submitted a 510(k) application to the Food and Drug Administration, or FDA, for the Senhance System.

The SurgiBot System is designed to utilize flexible instruments through articulating channels controlled directly by the surgeon, with robotic assistance, while the surgeon remains patient-side within the sterile field. In June 2015, the Company submitted a 510(k) application to the Food and Drug Administration, or FDA, for the SurgiBot System. On April 19, 2016, the FDA notified the Company that the SurgiBot System did not meet the criteria for substantial equivalence based on the data and information submitted by the Company in the 510(k) submission.

Effective April 27, 2017, we terminated our purchase agreement, dated as of December 16, 2016, or the LPC Purchase Agreement, with Lincoln Park Capital Fund I, LLC, or Lincoln Park. Prior to such termination, we received gross proceeds of approximately \$5.7 million from sales of our common stock to Lincoln Park pursuant to the LPC Purchase Agreement.

Our Market Opportunity

Over the past two decades, laparoscopic surgery has emerged as a minimally invasive alternative to open surgery. In laparoscopic surgery, multiple incisions are spread over the body, carbon dioxide gas insufflation is used to create room in the body cavity, and long rigid instruments are introduced through ports placed in the incisions to perform surgical tasks. Millions of laparoscopic surgical procedures across a broad range of clinical applications are now performed each year worldwide, though many surgeries are still performed in an open fashion.

While laparoscopy has improved the invasive nature of many previously open procedures, it still has many limitations. Traditional, or rigid, laparoscopy still requires multiple incisions to achieve the visualization and instrument triangulation required to perform successful surgery. Rigid laparoscopy also creates physical challenges by forcing the surgeon's hands and arms into awkward angles, requiring the surgeon to hold instruments in fixed positions for long periods of time, and requiring an assistant to stabilize and move a laparoscopic camera. Another challenge associated with rigid laparoscopic surgery is the creation of a cumbersome and potentially tissue-damaging fulcrum at the patient's abdominal wall where instruments are manipulated. Nearly all laparoscopic instruments are rigid instruments that lack the internal articulation required to enhance dexterity in complex tasks. Most laparoscopic surgeries are performed with two dimensional visualization of the operative field, making depth perception difficult. Despite such limitations, traditional laparoscopy remains the prevalent technique in minimally invasive surgery techniques. We believe that robotic devices that replicate laparoscopic motion are more comfortable for surgeons to adopt, thereby increasing the opportunity to enhance traditional surgical methods with robotics. Our Senhance System mimics laparoscopic surgery.

Robotic and computer controlled assistance have developed as technologies that offer the potential to improve upon many aspects of the laparoscopic surgical experience. Hundreds of thousands of robotic-assisted surgical procedures are now performed each year worldwide, but they still represent a small fraction of the total laparoscopic procedures performed. While initial widespread adoption of robotic-assisted surgery was focused on urologic and gynecologic procedures that were primarily performed in an open fashion prior to robotics, recently developed robotic approaches have been applied to many other clinical applications, particularly in general surgery. Despite recent advances, we believe there remain many limitations created by competing robotic-assisted surgery systems used in connection with laparoscopic surgeries. We are addressing the challenges in laparoscopy and robotic-assisted surgery with innovative products and product candidates that leverage the advantages of both approaches to minimally invasive surgery.

The Senhance System

The Senhance System is a multi-port robotic surgery system that allows up to four robotic arms to control instruments and a camera. The system builds on the success of laparoscopy by enhancing the traditional features that surgeons have come to expect from existing products and by addressing some of the trade-offs associated with using competing robotic offerings versus traditional instruments for laparoscopic procedures. The Senhance System also offers responsible economics to hospitals by offering reusable instruments that reduce additional costs per surgery when compared to laparoscopy. The Senhance System has been granted a CE Mark in Europe for use in abdominal and pelvic surgery; it is not available for sale in the U.S.

Key features of the Senhance System are:

- **Haptic Feedback:** The Senhance System's force feedback provides the surgeon with the ability to feel the tissue response during a procedure;
- **Enhanced Vision:** The Senhance System features 3DHD vision technology and gives the surgeon the ability to move the camera via eye movement so that the camera is centered in the surgeon's field of vision;
- **Laparoscopic Motion:** The Senhance System utilizes laparoscopic motion that is similar to the motion used during traditional laparoscopic surgeries;
- **View of the Sterile Field:** The Senhance System offers the surgeon an open view of the operating room and sterile field from the console; and
- **Enables use of standard trocars:** The Senhance System allows for standard laparoscopic trocars to be used and does not require that robotic arms be docked directly to the patient.

Corporate Information

We were organized as a Delaware corporation on August 19, 1988. Our principal executive offices are located at 635 Davis Drive, Suite 300, Morrisville, NC 27560. Our phone number is (919) 765-8400 and our Internet address is www.transenterix.com. The information on our website or any other website is not incorporated by reference in this prospectus supplement and does not constitute a part of this prospectus supplement.

THE OFFERING

Securities to be offered by us:

units, with each unit consisting of one share of common stock, one Series A warrant to purchase one share of common stock at an initial exercise price of \$ per share, and one Series B warrant to purchase 0.75 shares of common stock at an initial exercise price of \$ per share. Each Series A warrant will be exercisable at any time on or after the date of issuance and will expire one year after the date of issuance, unless terminated earlier in accordance with its terms. In the event the FDA provides clearance with respect to the Company's Senhance System 510(k) application, which was submitted to the FDA in April 2017, the holders of Series A warrants will have 10 business days following written notice to exercise, in whole or in part, their Series A warrants. At the end of such 10 business day period, any unexercised Series A warrants will expire. Each Series B warrant will be exercisable at any time after the date of issuance and will expire five years after the date of issuance. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise, if any, of the warrants. For additional information regarding the warrants, see "Description of Securities We are Offering — Warrants" below.

Common stock to be outstanding after this offering:

 shares (assuming none of the warrants issued in the offering are exercised).

Use of proceeds:

We expect the net proceeds from this offering to be approximately \$ million, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We currently intend to use the net proceeds of this offering for general corporate purposes, including working capital, product development and capital expenditures. See "Use of Proceeds" on page S-8 of this prospectus supplement.

Markets for common stock and warrants:

Our common stock is listed on the NYSE MKT under the symbol "TRXC." The shares offered hereby and the shares issuable upon exercise of the warrants will be listed on the NYSE MKT. However, 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 to list the warrants on any national securities exchange. The warrants are immediately separable from the shares of our common stock being offered in combination.

Risk Factors:

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page S-4 of this prospectus supplement and on page 6 of the accompanying prospectus and the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus.

The number of shares of our common stock to be outstanding immediately after this offering is based on 115,687,351 shares outstanding as of December 31, 2016. This number of shares excludes as of such date:

- 12,488,551 shares of common stock issuable upon the exercise of outstanding options granted under our stock option plans at a weighted average exercise price of \$2.66 per share;
- 1,426,622 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$1.81 per share;
- 895,328 shares of common stock issuable upon vesting of outstanding restricted stock units;
- 7,283,351 shares of common stock available for future issuance under our stock option plans; and
- 7,942,388 shares of common stock issued subsequent to January 1, 2017 through March 31, 2017.

RISK FACTORS

Investing in our securities involves a high degree of risk. For a discussion of the factors you should carefully consider before deciding to purchase any of our securities, please review “Part I, Item 1A—Risk Factors” in our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the U.S. Securities and Exchange Commission, or SEC, on March 6, 2017 which is incorporated by reference in this prospectus supplement and the accompanying prospectus in their entirety, together with the other information contained in this prospectus supplement, the accompanying prospectus and the documents we have incorporated by reference. The risks and uncertainties described in the documents incorporated by reference are not the only risks and uncertainties we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations. If any of those risks actually occurs, our business, financial condition and results of operations would suffer. In that event, the market price of our common stock could decline, and you may lose all or part of your investment in our securities.

We have a history of operating losses, and we may not be able to achieve or sustain profitability. In addition, we may be unable to continue as a going concern.

We have a limited operating history. We are not profitable and have incurred losses since our inception. Substantial doubt exists about our ability to continue as a going concern as a result of anticipated capital needs as well as past recurring losses and an accumulated deficit. Our net loss for the year ended December 31, 2016 was \$120.0 million, and our accumulated deficit as of December 31, 2016 was \$302.8 million. We believe that our existing cash and cash equivalents, together with cash received from sales of our products, will not be sufficient to meet our anticipated cash needs for the next 12 months.

We expect to continue to incur losses for the foreseeable future, and these losses will likely increase as we continue to develop and commercialize our products and product candidates. We will continue to incur research and development and general and administrative expenses related to our operations, and expect to increase our sales and marketing expenses as we increase our sales and marketing activities for the Senhance System in Europe and other jurisdictions where CE marking provides authorization for commercial activities, and pursue our regulatory strategy in the U.S. If our products fail in development or do not gain regulatory clearance or approval, or if our products do not achieve market acceptance, we may never become profitable. Even if we achieve profitability in the future, we may not be able to sustain profitability in subsequent periods.

Management 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 and could use them for purposes other than those contemplated at the time of this offering. 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 the net proceeds for corporate purposes that may not increase our results of operations or the market value of our common stock. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development and approval of our products and cause the price of our common stock to decline.

There is no public market for the warrants to purchase common stock in this offering.

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

The exercise of our outstanding options and warrants will dilute shareholders and could decrease our stock price.

The existence of our outstanding options and warrants, including any warrants to be issued pursuant to this offering, may adversely affect our stock price due to sales of a large number of shares or the perception that such sales could occur. These factors also could make it more difficult to raise funds through future offerings of common stock or warrants, and could adversely impact the terms under which we could obtain additional equity capital. Exercise of outstanding options and warrants, or any future issuance of additional shares of common stock or other equity securities, including but not limited to options, warrants or other derivative securities convertible into our common stock, may result in significant dilution to our shareholders and may decrease our stock price.

If you purchase units in this offering, you will experience immediate dilution as a result of this offering.

Because the price per unit being offered may be higher than net tangible book value per share of our common stock, you will experience dilution to the extent of the difference between the offering price per share of common stock you pay in this offering and the net tangible book value per share of our common stock immediately after this offering. Our net tangible book value as of December 31, 2016, was approximately \$(3.8) million, or \$(0.03) per share of common stock. Net tangible book value per share is equal to our total tangible assets minus total liabilities, all divided by the number of shares of common stock outstanding. In addition, if the warrants are exercised by the holders, you will experience further dilution upon such exercises.

If you purchase units in this offering, you may experience future dilution as a result of future equity offerings or other equity issuances.

In order to raise additional capital, we may in the future offer and issue additional shares of our common stock or other securities convertible into or exchangeable for our common stock. We cannot assure you that we will be able to sell shares or other securities in any other offering at a price per share that is equal to or greater than the price per share paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price per share at which we sell additional shares of our common stock or other securities convertible into or exchangeable for our common stock in future transactions may be higher or lower than the price per share in this offering.

The warrants contain provisions, often referred to as “down-round protection” that may lead to adjustment of the exercise price and number of underlying warrant shares with respect to future issuances by the Company of its securities, including its common stock or convertible securities or debt securities. Any such adjustment could further impact the dilution from future offerings of our securities.

In addition, we have a significant number of stock options outstanding. To the extent that outstanding stock options have been or may be exercised or other shares issued, you may experience further dilution. Further, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans.

Directors, executive officers, principal stockholders and affiliated entities own a significant percentage of our capital stock, and they may make decisions that you do not consider to be in the best interests of our stockholders.

As of March 31, 2017, our directors, executive officers, principal stockholders and affiliated entities beneficially own, in the aggregate, approximately 37.3% of our outstanding voting securities, without giving effect to any purchase by such persons in this offering. As a result, if some or all of them acted together, they would have the ability to exert substantial influence over the election of our board of directors and the outcome of issues requiring approval by our stockholders. This concentration of ownership may also have the effect of delaying or preventing a change in control of the Company that may be favored by other stockholders. This could prevent transactions in which stockholders might otherwise recover a premium for their shares over current market prices.

The market price of our common stock has been, and may continue to be, highly volatile, and such volatility could cause the market price of our common stock to decrease and could cause you to lose some or all of your investment in our common stock.

During the two years ended December 31, 2016, the market price of our common stock fluctuated from a high of \$6.10 per share to a low of \$1.03 per share, and our stock price continues to fluctuate. The market price of our common stock may continue to fluctuate significantly in response to numerous factors, some of which are beyond our control, such as:

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- the announcement of new products or product enhancements by us or our competitors;
- developments concerning intellectual property rights and regulatory approvals;
- variations in our and our competitors' results of operations;
- changes in earnings estimates or recommendations by securities analysts, if our common stock is covered by analysts;
- developments in the medical device industry;
- the results of product liability or intellectual property or federal securities lawsuits;
- future issuances of common stock or other securities;
- the addition or departure of key personnel;
- announcements by us or our competitors of acquisitions, investments or strategic alliances; and
- general market conditions and other factors, including factors unrelated to our operating performance.

Further, the stock market in general, and the market for medical device companies in particular, has recently experienced extreme price and volume fluctuations. The volatility of our common stock is further exacerbated due to its low trading volume. Continued market fluctuations could result in extreme volatility in the price of our common stock, which could cause a decline in the value of our common stock and the loss of some or all of your investment.

Trading of our common stock is limited, and trading restrictions imposed on us by applicable regulations may further reduce trading in our common stock, making it difficult for our stockholders to sell their shares; and future sales of common stock could reduce our stock price.

Trading of our common stock is currently conducted on the NYSE MKT. The liquidity of our common stock is limited, not only in terms of the number of shares that can be bought and sold at a given price, but also as it may be adversely affected by delays in the timing of transactions and reduction in security analysts' and the media's coverage of us, if at all. As of March 31, 2017, approximately 37.3% of the issued and outstanding shares of our common stock were held by officers, directors and beneficial owners of at least 10% of our outstanding shares, without giving effect to any purchase by such persons in this offering, each of whom is subject to certain restrictions with regard to trading our common stock. These factors may result in different prices for our common stock than might otherwise be obtained in a more liquid market and could also result in a larger spread between the bid and asked prices for our common stock. In addition, without a large public float, our common stock is less liquid than the stock of companies with broader public ownership, and, as a result, the trading prices of our common stock may be more volatile. In the absence of an active public trading market, an investor may be unable to liquidate his investment in our common stock. Trading of a relatively small volume of our common stock may have a greater impact on the trading price of our stock than would be the case if our public float were larger. We cannot predict the prices at which our common stock will trade in the future, if at all.

Sales by stockholders of substantial amounts of our shares of common stock, the issuance of new shares of common stock by us or the perception that these sales may occur in the future could materially and adversely affect the market price of our common stock, and you may lose all or a portion of your investment in our common stock.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, or the Securities Act, and Section 21E of the Securities Exchange Act of 1934, as amended, or the Exchange Act. All statements, other than statements of historical fact, included or incorporated by reference in this prospectus supplement regarding our strategy, future operations, collaborations, intellectual property, cash resources, financial position, future revenues, projected costs, prospects, plans and objectives are forward-looking statements. The words “believes,” “anticipates,” “estimates,” “plans,” “expects,” “intends,” “may,” “could,” “should,” “potential,” “likely,” “projects,” “continue,” “will,” and “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. These important factors include those set forth above under the heading “Risk Factors” in this prospectus supplement and in the reports incorporated by reference herein and therein. These factors and the other cautionary statements made in this prospectus supplement or incorporated by reference herein should be read as being applicable to all related forward-looking statements whenever they appear in this prospectus supplement or in the reports incorporated by reference herein. In addition, any forward-looking statements represent our estimates only as of the date that this prospectus supplement is filed with the SEC, and should not be relied upon as representing our estimates as of any subsequent date. We do not assume any obligation to update any forward-looking statements. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

USE OF PROCEEDS

We estimate that the net proceeds to us from this offering, based on the sale of _____ units at the public offering price of \$ _____ per unit, after deducting underwriting discounts and commissions and estimated offering expenses payable by us, will be approximately \$ _____ million.

We currently intend to use the net proceeds of this offering for general corporate purposes, including working capital, product development and capital expenditures. While we have estimated the particular uses for the net proceeds of this offering, we have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds from this offering for any purpose, and investors will be relying on the judgment of our management with regard to the use of these net proceeds. Pending use of the net proceeds as described above, we intend to invest the net proceeds in money-market funds or U.S. treasuries until we use them for their stated purpose. We expect that, after giving effect to this offering, as well in consideration of our current cash on hand, the strategic management of inventory and expenses and possible future debt financings or refinancings, we will be able to fund operations through the first fiscal quarter of 2018.

CAPITALIZATION

The following table sets forth our consolidated cash and cash equivalents, our notes payable and our capitalization as of December 31, 2016:

- on an actual basis; and
- on an adjusted basis after giving effect to our sale of an aggregate of _____ units for an aggregate purchase price of \$ _____ million.

You should read this table along with our historical consolidated financial statements and related notes and the other financial information included and incorporated by reference in this prospectus supplement and the accompanying prospectus.

	As of December 31, 2016	
	Actual	As Adjusted
	(In thousands)	
Cash, cash equivalents and restricted cash (1) :	<u>\$ 34,590</u>	<u>\$ _____</u>
Note payable (including current portion)	<u>12,992</u>	<u>_____</u>
Stockholders' equity (2):		
Common stock \$0.001 par value, 750,000,000 shares authorized at December 31, 2016; 115,781,030 shares issued at December 31, 2016; 115,687,351 shares outstanding at December 31, 2016 actual; shares issued and outstanding at December 31, 2016, as adjusted	115	_____
Additional paid-in capital	426,609	_____
Accumulated deficit	(302,844)	_____
Treasury stock at cost	(241)	_____
Accumulated other comprehensive loss	(5,769)	_____
Total stockholders' equity	<u>117,870</u>	<u>_____</u>
Total capitalization	<u>\$ 130,862</u>	<u>\$ _____</u>

The number of shares of our common stock to be outstanding immediately after this offering is based on 115,687,351 shares outstanding as of December 31, 2016, and excludes as of such date:

- 12,488,551 shares of common stock issuable upon the exercise of outstanding options granted under our stock option plans at a weighted average exercise price of \$2.66 per share;
- 1,426,622 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$1.81 per share;
- 895,328 shares of common stock issuable upon vesting of outstanding restricted stock units; and
- 7,283,351 shares of common stock available for future issuance under our stock option plans.

(1) Includes restricted cash of approximately \$10.4 million.

(2) Between January 1, 2017 and March 31, 2017, we issued 7,942,338 shares of common stock.

DILUTION

If you invest in our securities, your interest will be diluted immediately to the extent of the difference between the public offering price per share of our units and the as adjusted net tangible book value per share of common stock after this offering.

The net tangible book value of our shares of common stock as of December 31, 2016 was approximately \$(3.8) million, or approximately \$(0.03) per share. Net tangible book value per share represents the amount of our total tangible assets less total liabilities divided by the total number of shares of our common stock outstanding. Dilution per share to new investors represents the difference between the amount per unit paid by purchasers in this offering and the net tangible book value per share of our common stock immediately following the completion of this offering.

After giving effect to the sale of units offered by this prospectus supplement at a public offering price of \$ _____ per unit, and after deducting commissions and estimated aggregate offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2016 would have been approximately \$ _____ million, or approximately \$ _____ per share. This represents an immediate increase in net tangible book value of approximately \$ _____ per share to our existing stockholders and an immediate dilution in as adjusted net tangible book value of approximately \$ _____ per share to purchasers of our units in this offering, as illustrated by the following table:

Public offering price per unit (i)		\$
Net tangible book value per share at December 31, 2016	\$	\$(0.03)
Increase in net tangible book value per share attributable to investors purchasing our units in this offering	\$	
As adjusted net tangible book value per share as of December 31, 2016 after giving effect to this offering		\$
Dilution per share to investors purchasing our units in this offering		\$

The number of shares of our common stock to be outstanding immediately after this offering is based on 115,687,351 shares outstanding as of December 31, 2016. This number of shares excludes as of such date:

- 12,488,551 shares of common stock issuable upon the exercise of outstanding options granted under our stock option plans at a weighted average exercise price of \$2.66 per share;
- 1,426,622 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$1.81 per share;
- 895,328 shares of common stock issuable upon vesting of outstanding restricted stock units;
- 7,283,351 shares of common stock available for future issuance under our stock option plans; and
- 7,942,388 shares of common stock issued subsequent to January 1, 2017 through March 31, 2017.

To the extent that outstanding options are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

PRICE RANGE OF COMMON STOCK

Our common stock began trading on the NYSE MKT on April 2, 2014 under the symbol “TRXC.” The following table sets forth the high and low bid prices per share of our common stock as reported on the NYSE MKT for the period indicated. The bid prices represent inter-dealer transactions, without adjustments for retail mark-ups, mark-downs or commissions and may not necessarily represent actual transactions.

	Bid Prices	
	High	Low
2017		
First Quarter	\$1.63	\$1.05
Second Quarter (through April 26, 2017)	1.26	1.05
2016		
First Quarter	\$4.79	\$1.54
Second Quarter	6.10	1.03
Third Quarter	1.97	1.16
Fourth Quarter	2.33	1.30
2015		
First Quarter	\$3.50	\$2.52
Second Quarter	4.87	2.70
Third Quarter	3.66	2.07
Fourth Quarter	2.90	2.10

The closing sale price of our common stock as reported on the NYSE MKT on April 26, 2017 was \$1.10 per share. As of March 31, 2017, there were approximately 240 record holders of our common stock (counting all shares held in single nominee registration as one stockholder). This does not include the number of persons whose stock is in nominee or “street name” accounts through brokers.

DESCRIPTION OF SECURITIES WE ARE OFFERING

In this offering, we are offering _____ units. Each unit consists of one share of common stock, one Series A warrant to purchase one share of common stock at an initial exercise price of \$ _____ per share, and one Series B warrant to purchase 0.75 shares of common stock at an initial exercise price of \$ _____ per share. Each Series A warrant will be exercisable at any time on or after the date of issuance and will expire one year from the date of issuance, unless terminated earlier in accordance with its terms. Each Series B warrant will be exercisable at any time on or after the date of issuance and will expire five years from the date of issuance. This prospectus supplement also relates to the offering of shares of our common stock upon exercise, if any, of the warrants. Units will not be issued or certificated. The shares of common stock and warrants will be issued separately but can only be purchased together in units in this offering. This description of the units in this prospectus supplement is qualified in its entirety by reference to the warrants.

Common Stock

The material terms and provisions of our common stock are described under the caption “Description of Capital Stock” beginning on page 9 of the accompanying prospectus. Our common stock is listed on the NYSE MKT under the symbol “TRXC.” Our transfer agent is Continental Stock Transfer and Trust Company.

Warrants

The material terms and provisions of the warrants being offered pursuant to this prospectus supplement and the accompanying prospectus are summarized below. This summary is subject to and qualified in its entirety by the forms of warrants, which will be filed as exhibits to a Current Report on Form 8-K to be filed by us with the SEC in connection with this offering. You should review a copy of the forms of warrants for a complete description of the terms and conditions applicable to the warrants.

Form

The warrants will be issued either in physical certificated form or in book entry form to the investors.

General Terms of the Warrants

Each Series A warrant to be issued in this offering represents the rights to purchase one share of common stock at an initial exercise price of \$ _____ per share. Each Series A warrant may be exercised for cash at any time beginning on the date of issuance and from time to time thereafter through and including the first anniversary of the issuance date, unless terminated earlier as provided in the Series A warrant. In the event the FDA provides clearance with respect to the Company’s Senhance System 510(k) application, which was submitted to the FDA in April 2017, the holders of Series A warrants will have 10 business days following written notice to exercise, in whole or in part, their Series A warrants. Any Series A warrants that remain unexercised after such 10 business day period will expire.

Each Series B warrant to be issued in this offering represents the rights to purchase 0.75 shares of common stock at an initial exercise price of \$ _____ per share. Each Series B warrant may be exercised, in cash or by a cashless exercise at the election of the holders at any time beginning on the date of issuance and from time to time thereafter through and including the fifth anniversary of the issuance date.

Exercisability

The Series A warrants will be exercisable upon issuance and will expire on the one-year anniversary of issuance, subject to earlier termination as described above. The Series B warrants will be exercisable upon issuance and will expire on the five-year anniversary of issuance. The Series A warrants will be exercisable in whole or in part by delivering to us a duly executed exercise notice and payment in full of the exercise price in cash within one trading day in available funds for the number of shares of common stock purchased upon such exercise. If a registration statement registering the resale of the shares of common stock underlying the Series A warrants under the Securities Act of 1933, as amended, or the Securities Act, is not in effect, then a holder of Series A warrants may, in its sole discretion, elect to exercise any such Series A warrant through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the warrant. The Series B warrants will be exercisable in whole or in part, at the election of the holder, in cash or pursuant to a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the warrant.

No Fractional Shares

No fractional shares or scrip representing fractional shares shall be issued upon the exercise of the warrants. As to any fraction of a share which the holder would otherwise be entitled to purchase upon such exercise, the number of shares of common stock to be issued shall be rounded up to the nearest whole number.

Failure to Timely Deliver Shares

If we fail to deliver to the holder a certificate representing shares issuable upon exercise of a warrant or to credit the holder's balance account with Depository Trust Company for such number of shares of common stock to which the holder is entitled upon the holder's exercise of the warrant, in each case, by the delivery date set forth in the warrant, and if on or after such date the holder purchases the shares of our common stock to deliver in satisfaction of a sale by the holder of the underlying warrant shares that the holder anticipated receiving from us, then, within three business days of receipt of the holder's request, we, at the holder's discretion, will either (i) pay cash to the holder in an amount equal to the holder's total purchase price (including brokerage commissions and other out of pocket expenses, if any) for the shares of common stock purchased, or the buy-in price, at which point our obligation to deliver the underlying common stock will terminate, or (ii) promptly honor our obligation to deliver to the holder a certificate or certificates representing the underlying common stock or credit the holder's balance account with Depository Trust Company and pay cash to the holder in an amount equal to the excess (if any) of the buy-in price over the product of (A) the number of shares of common stock, times (B) the lowest closing sale price of the common stock on any trading day during the period commencing on the date of the applicable exercise notice and ending on the date of the issuance and payment of the common shares by us.

Exercise Limitation

In general, a holder will not have the right to exercise any portion of the warrant if the holder (together with its Attribution Parties (as defined in each of the warrants)) would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrant. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99% upon notice to us, provided that any increase in this limitation will not be effective until 61 days after such notice from the holder to us and such increase or decrease will apply only to the holder providing such notice.

Adjustment for Stock Splits

The exercise price and the number of shares of common stock purchasable upon the exercise of the warrants are subject to adjustment upon the occurrence of specific events, including sales of additional shares of common stock, stock dividends, stock splits, and combinations of our common stock.

Adjustments Upon Future Issuances of Securities

If, after the issuance date of the warrants, we (1) sell, or are deemed to sell any shares of common stock, for consideration less than a price equal to the exercise price in effect immediately prior to such sale or deemed issuance, or the applicable price, then the exercise price of the warrants shall be reduced to be equal to such new issuance price; (2) grant or sell any options (as defined in the warrants) and the lowest price per share for one share issuable under such option is less than the applicable price, then the share shall be deemed to have been sold at the time the option was issued for such price per share, and the exercise price of the warrants adjusted; (3) issue or sell any convertible securities (as defined in the warrant) and the lowest price per share for which one share of common stock is at any time issuable upon the conversion, exercise or exchange thereof or otherwise pursuant to the terms thereof is less than the applicable price then such share of common stock shall be deemed to be outstanding and to have been issued and sold by us at the time of the issuance or sale of such convertible securities for such price per share, and the exercise price of the warrants adjusted; and (4) if the option price or rate of conversion of any options or convertible securities are changed, a further adjustment to the exercise price may be made. If an adjustment is made at the time of the issuance of an option or convertible security, no further adjustment is made upon exercise or conversion. If any of these sales or deemed sales are Excluded Securities (as defined below), the adjustment provisions do not apply.

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Simultaneously with any adjustment to the exercise price of the warrants, the number of warrant shares that may be purchased upon exercise of the warrants shall be increased or decreased proportionately, so that after such adjustment the aggregate exercise price for the adjusted number of shares of common stock underlying the warrant shall be the same as the aggregate exercise price in effect immediately prior to such adjustment (without regard to any limitations on exercise contained herein).

If we declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of our common stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) at any time after the issuance of the warrants, then, in each such case, the warrant holders shall be entitled to participate in such distribution to the same extent that the holders would have participated therein if the holders had held the number of shares of common stock acquirable upon complete exercise of the warrants.

Fundamental Transactions

If a Fundamental Transaction (as defined below) occurs, then the successor entity will succeed to, and be substituted for us, and may exercise every right and power that we may exercise and will assume all of our obligations under the warrants with the same effect as if such successor entity had been named in the warrant itself. Additionally, upon consummation of a Fundamental Transaction pursuant to which holders of shares of our common stock are entitled to receive securities or other assets with respect to or in exchange for shares of our common stock, we will make appropriate provision to insure that the holder will thereafter have the right to receive upon an exercise of the warrant at any time after the consummation of the Fundamental Transaction but prior to the expiration date of the warrant, in lieu of shares of our common stock (or other securities, cash, assets or other property) purchasable upon the exercise of the warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) which the holder would have been entitled to receive upon the happening of such Fundamental Transaction had the warrant been exercised immediately prior to such Fundamental Transaction. If holders of our common stock are given a choice as to the securities, cash or property to be received in a Fundamental Transaction, then the holder shall be given the same choice as to the consideration it receives upon any exercise of the warrant following such Fundamental Transaction. These provisions apply similarly and equally to successive Fundamental Transactions and other corporate events described in the warrant and will be applied without regard to any limitations on the exercise of the warrant. In the event of certain Fundamental Transactions, at the request of the holder, we or the successor entity shall purchase the unexercised portion of the warrant from the holder by paying to the holder, on or prior to the second trading day after such request (or, if later, on the effective date of the Fundamental Transaction), cash in an amount equal to the Black-Scholes Value (as defined below) of the remaining unexercised portion of the warrant on the date of such Fundamental Transaction.

Authorized Shares

During the period the warrants are outstanding, we will reserve from our authorized and unissued shares of common stock a sufficient number of shares to provide for the issuance of 100% of the shares of common stock underlying the warrants upon the exercise of the warrants.

Transferability

Subject to applicable laws, the warrants may be offered for sale, sold, transferred or assigned. There is currently no trading market for the warrants and a trading market is not expected to develop.

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Rights as a Shareholder

Except as otherwise provided in the warrants or by virtue of a holder's ownership of shares of our common stock, the holders of the warrants do not have the rights or privileges of holders of our common stock, including any voting rights, unless and until they exercise their warrants.

Amendments

Each warrant may be amended with the written consent of the holder of such warrant and us.

Listing

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 national securities exchange.

Definitions

"Black-Scholes Value" means the value of the unexercised portion of the warrant remaining on the date of the holder's request to us to repurchase the warrant (the "Request Date"), which value is calculated using the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg utilizing: (i) an underlying price per share equal to the greater of: (1) the highest closing sale price of our common stock during the period beginning on the trading day immediately preceding the announcement of the applicable Fundamental Transaction (or the consummation of the applicable Fundamental Transaction, if earlier) and ending on the trading day of the Request Date; and (2) the sum of the price per share being offered in cash in the applicable Fundamental Transaction (if any) plus the value of the non-cash consideration being offered in the applicable Fundamental Transaction (if any); (ii) a strike price equal to the exercise price in effect on the Request Date; (iii) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the greater of: (1) the remaining term of the warrant as of the Request Date; and (2) the remaining term of this Warrant as of the date of consummation of the applicable Fundamental Transaction or as of the Request Date if such request is prior to the date of the consummation of the applicable Fundamental Transaction; (iv) a zero cost of borrow; and (v) an expected volatility equal to the greater of 75% and the 30 day volatility obtained from the "HVT" function on Bloomberg (determined utilizing a 365 day annualization factor) as of the trading day immediately following the earliest to occur of (1) the public disclosure of the applicable Fundamental Transaction and (2) the consummation of the applicable Fundamental Transaction.

"Excluded Securities" means (i) shares of common stock, restricted stock units, stock appreciation rights, options to purchase common stock or similar rights issued to directors, officers, employees or consultants of the company for services rendered to the company in their capacity as such pursuant to an approved stock plan (as defined in the warrants), provided that the exercise price of any such options is not lowered, none of such options are amended to increase the number of shares issuable thereunder and none of the terms or conditions of any such options are otherwise materially changed in any manner that adversely affects any of the holders; (ii) shares of common stock issued upon the conversion or exercise of convertible securities (other than options to purchase common stock issued pursuant to an approved stock plan that are covered by clause (i) above) issued prior to the issuance date of the warrants, provided that the conversion price of any such convertible securities (other than options to purchase common stock issued pursuant to an approved stock plan that are covered by clause (i) above) is not lowered, none of such convertible securities (other than options to purchase common stock issued pursuant to an approved stock plan that are covered by clause (i) above) are amended to increase the number of shares issuable thereunder and none of the terms or conditions of any such convertible securities (other than options to purchase common stock issued pursuant to an approved stock plan that are covered by clause (i) above) are otherwise materially changed in any manner that adversely affects any of the holders; (iii) shares of common stock, options and convertible securities issued pursuant to equipment acquisitions, strategic mergers or acquisitions of other assets or businesses, or strategic licensing or development transactions; provided that (x) the primary purpose of such issuance is not to raise capital as determined in good faith by the holders, (y) the purchaser or acquirer of such shares of common stock in such issuance solely consists of either (1) the actual participants in such strategic licensing or development transactions, (2) the actual owners of such assets or securities acquired in such merger or acquisition or (3) the shareholders, partners or members of the foregoing persons, and (z) the number or amount (as the case

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may be) of such shares of common stock issued to such person by the company shall not be disproportionate to such person's actual participation in such strategic licensing or development transactions or ownership of such assets or securities to be acquired by the company (as applicable); (iv) the shares of common stock issuable upon exercise of the registered warrants; provided, that the terms of the registered warrant are not amended, modified or changed on or after the issuance date (other than antidilution adjustments pursuant to the terms thereof in effect as of the issuance date).

"Fundamental Transaction" means (A) that the Company shall, directly or indirectly, including through subsidiaries, affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another subject entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the company to be subject to or have its common stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of common stock, (y) 50% of the outstanding shares of common stock calculated as if any shares of common stock held by all Subject Entities making or party to, or affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of common stock such that all Subject Entities making or party to, or affiliated with any subject entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of common stock, or (iv) consummate a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of common stock, (y) at least 50% of the outstanding shares of common stock calculated as if any shares of common stock held by all the Subject Entities making or party to, or Affiliated with any subject entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of common stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of common stock, or (v) reorganize, recapitalize or reclassify its common stock, (B) that the company shall, directly or indirectly, including through subsidiaries, affiliates or otherwise, in one or more related transactions, allow any subject entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of common stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding common stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding common stock not held by all such Subject Entities as of the date of the warrant calculated as if any shares of common stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of common stock or other equity securities of the company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other shareholders of the company to surrender their shares of common stock without approval of the shareholders of the company or (C) directly or indirectly, including through subsidiaries, affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

"Subject Entity" means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group (as each such capitalized term is defined in the warrants).

UNDERWRITING

Subject to the terms and conditions set forth in an underwriting agreement between us and Stifel, Nicolaus & Company, Incorporated, acting as sole book-running manager, Stifel has agreed to purchase from us the aggregate number of units set forth opposite its name below:

<u>Name</u>	<u>Number of Units</u>
Stifel, Nicolaus & Company, Incorporated	
Total	

units, with each unit consisting of one share of common stock, one Series A warrant to purchase one share of common stock at an initial exercise price of \$ per share, and one Series B warrant to purchase 0.75 shares of common stock at an initial exercise price of \$ per share. The common stock and warrants will be issued separately but can only be purchased together in this offering. There is no market through which warrants may be sold and purchasers may not be able to resell the warrants purchased in this offering. Certain of our directors, officers and their affiliated entities have indicated an interest in participating in this offering.

The underwriting agreement provides that the obligations of the underwriter to purchase units in this offering are subject to various conditions, including approval of legal matters by counsel. The nature of the underwriter's obligations commits it to purchase and pay for all of the units listed above if any are purchased.

The underwriter expects to deliver the units to purchasers on or about May , 2017.

Commissions and Discounts

The underwriter proposes to offer the units directly to the public at the public offering price set forth on the cover page of this prospectus supplement, and at this price less a concession not in excess of \$ per unit to other dealers. After this offering, the offering price, concessions, and other selling terms may be changed by the underwriter. Our units are offered subject to receipt and acceptance by the underwriter and to the other conditions, including the right to reject orders in whole or in part.

The following table summarizes the compensation to be paid to the underwriters by us and the proceeds, before expenses, payable to us:

	<u>Per Unit</u>	<u>Total</u>
Public offering price	\$	\$
Underwriting discount	\$	\$
Proceeds, before expenses, to us	\$	\$

We estimate that the total expenses of this offering payable by us, excluding underwriting discounts and commissions, will be approximately \$, which includes underwriting expenses. We have agreed to reimburse the underwriter for certain expenses in an amount up to \$.

Indemnification of Underwriter

We will indemnify the underwriter against some civil liabilities, including liabilities under the Securities Act relating to losses or claims resulting from material misstatements in or omissions from this prospectus supplement, the registration statement of which this prospectus supplement is a part, certain free writing prospectuses that may be used in the offering and in any marketing materials used in connection with this offering, and liabilities arising from breaches of our representations and warranties contained in the underwriting agreement. If we are unable to provide this indemnification, we will contribute to payments the underwriter may be required to make in respect of those liabilities.

No Sales of Similar Securities

The underwriter will require all of our directors and officers and certain of our stockholders to agree not to offer, sell, contract to sell (including any short sale), pledge, hypothecate, establish an open “put equivalent position” within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended, grant any option, right or warrant for the sale of, purchase any option or contract to sell, sell any option or contract to purchase, or otherwise encumber, dispose of or transfer, or grant any rights with respect to, directly or indirectly, any of the shares of common stock or securities convertible into or exchangeable or exercisable for shares of common stock, enter into a transaction which would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of the shares of common stock, whether any such aforementioned transaction is to be settled by delivery of the shares of common stock or such other securities, in cash or otherwise, or publicly disclose the intention to make any such offer, sale, pledge or disposition, or to enter into any such transaction, swap, hedge or other arrangement, except for the securities offered in this offering, without the prior written consent of Stifel, Nicolaus & Company, Incorporated for a period of 90 days after the date of this prospectus supplement, subject to specified limited exceptions. Stifel, Nicolaus & Company, Incorporated in its sole discretion may release any of the securities subject to these agreements at any time.

We have agreed that for a period of 90 days after the date of this prospectus supplement, we will not, without the prior written consent of Stifel, Nicolaus & Company, Incorporated offer, sell, contract to sell (including any short sale), pledge, hypothecate, establish an open “put equivalent position” within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended, grant any option, right or warrant for the sale of, purchase any option or contract to sell, sell any option or contract to purchase, or otherwise encumber, dispose of or transfer, or grant any rights with respect to, directly or indirectly, any of the shares of common stock or securities convertible into or exchangeable or exercisable for shares of common stock, enter into a transaction which would have the same effect, or enter into any swap, hedge or other arrangement that transfers, in whole or in part, any of the economic consequences of ownership of the shares of common stock, whether any such aforementioned transaction is to be settled by delivery of the shares of common stock or such other securities, in cash or otherwise, or publicly disclose the intention to make any such offer, sale, pledge or disposition, or to enter into any such transaction, swap, hedge or other arrangement, except for the securities offered in this offering, the shares of common stock issuable upon exercise of the warrants offered in this offering, the shares of common stock issuable upon exercise of outstanding options on the date of this prospectus supplement and other specified limited exceptions. Stifel, Nicolaus & Company, Incorporated in its sole discretion may release any of the securities subject to these agreements at any time.

NYSE MKT Listing

Shares of our common stock are listed on the NYSE MKT under the trading symbol “TRXC.” We do not intend to list the warrants on the NYSE MKT, any other national securities exchange or any other nationally recognized trading system.

Short Sales, Stabilizing Transactions, and Penalty Bids

In order to facilitate this offering, persons participating in this offering may engage in transactions that stabilize, maintain, or otherwise affect the price of our common stock during and after this offering. Since the underwriter does not have an option to purchase additional shares in this offering, the underwriters may only close out a short position by purchasing shares in the open market. Specifically, the underwriter may engage in the following activities in accordance with the rules of the SEC.

Short sales. Short sales involve the sales by the underwriter of a greater number of shares than they are required to purchase in the offering. The underwriter may close out any covered short position by purchasing shares in the open market. Naked short sales are any short sales in excess of the number of shares of common stock purchased by the underwriter in this offering. The underwriter must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if the underwriter are concerned that there may be downward pressure on the price of the common stock in the open market after pricing that could adversely affect investors who purchase in this offering.

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Stabilizing transactions. The underwriter may make bids for or purchases of the shares for the purpose of pegging, fixing, or maintaining the price of the shares, so long as stabilizing bids do not exceed a specified maximum. Purchases to cover short positions and stabilizing purchases, as well as other purchases by the underwriters for their own accounts, may have the effect of preventing or slowing a decline in the market price of the shares of common stock. They may also cause the price of the shares of common stock to be higher than the price that would otherwise exist in the open market in the absence of these transactions.

Penalty bids. If the underwriter purchases shares in the open market in a stabilizing transaction or syndicate covering transaction, it may reclaim a selling concession from the underwriter who sold those shares as part of this offering. Stabilization and syndicate covering transactions may cause the price of the shares to be higher than it would be in the absence of these transactions. The imposition of a penalty bid might also have an effect on the price of the shares if it discourages resales of the shares.

The transactions above may occur on the NYSE MKT or otherwise. Neither we nor the underwriter make any representation or prediction as to the effect that the transactions described above may have on the price of the shares. If these transactions are commenced, they may be discontinued without notice at any time.

Discretionary Sales

The underwriter has informed us that they do not expect to confirm sales of common stock offered by this prospectus supplement to accounts over which they exercise discretionary authority without obtaining the specific approval of the account holder.

Electronic Offer, Sale and Distribution of Shares

A prospectus supplement in electronic format may be made available on the internet sites or through other online services maintained by one or more of the underwriters participating in this offering, or by their affiliates. In connection with this offering, the underwriter or certain of the securities dealers may distribute prospectus supplements electronically. The underwriter may agree to allocate a number of shares of common stock for sale to its online brokerage account holders. The underwriter may make internet distributions on the same basis as other allocations. Other than the prospectus supplement in electronic format, the information on any underwriter's website and any information contained in any other website maintained by an underwriter is not part of the prospectus or the registration statement of which this prospectus supplement forms a part, has not been approved or endorsed by us or any underwriter in its capacity as underwriter and should not be relied upon by investors.

Conflicts of Interest

The underwriter and its respective affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, principal investment, hedging, financing and brokerage activities. The underwriter and its affiliates have in the past provided, and may in the future from time to time provide, investment banking and other financing and banking services to us, for which they have in the past received, and may in the future receive, customary fees and reimbursement for their expenses. In the ordinary course of their various business activities, the underwriter and its respective affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments including bank loans) for their own account and for the accounts of their customers and may at any time hold long and short positions in such securities and instruments. Such investment and securities activities may involve securities and/or instruments of ours or our affiliates. The underwriter and its affiliates may also make investment recommendations and/or publish or express independent research views in respect of such securities or financial instruments and may hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

Notice to Prospective Investors in Canada

This prospectus constitutes an "exempt offering document" as defined in and for the purposes of applicable Canadian securities laws. No prospectus has been filed with any securities commission or similar regulatory authority in Canada in connection with the offer and sale of the securities. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon this prospectus or on the merits of the securities and any representation to the contrary is an offence.

Canadian investors are advised that this prospectus has been prepared in reliance on section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* (“NI 33-105”). Pursuant to section 3A.3 of NI 33-105, the company and the underwriters in the offering are exempt from the requirement to provide Canadian investors with certain conflicts of interest disclosure pertaining to “connected issuer” and/or “related issuer” relationships as would otherwise be required pursuant to subsection 2.1(1) of NI 33-105.

Resale Restrictions

The offer and sale of the securities in Canada is being made on a private placement basis only and is exempt from the requirement that the company prepares and files a prospectus under applicable Canadian securities laws. Any resale of securities, or of the underlying shares, warrants or shares acquired upon exercise of the warrants, by a Canadian investor in this offering must be made in accordance with applicable Canadian securities laws, which may vary depending on the relevant jurisdiction, and which may require resales to be made in accordance with Canadian prospectus requirements, a statutory exemption from the prospectus requirements, in a transaction exempt from the prospectus requirements or otherwise under a discretionary exemption from the prospectus requirements granted by the applicable local Canadian securities regulatory authority. These resale restrictions may under certain circumstances apply to resales of the securities, the underlying shares, warrants or shares acquired upon exercise of the warrants outside of Canada.

Representations of Purchasers

Each Canadian investor who purchases the securities will be deemed to have represented to the company, the underwriters and to each dealer from whom a purchase confirmation is received, as applicable, that the investor is (i) purchasing as principal, or is deemed to be purchasing as principal in accordance with applicable Canadian securities laws; (ii) an “accredited investor” as such term is defined in section 1.1 of National Instrument 45-106 *Prospectus Exemptions* (“NI 45-106”) or, in Ontario, as such term is defined in section 73.3(1) of the *Securities Act* (Ontario); and (iii) a “permitted client” as such term is defined in section 1.1 of National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations* .

Taxation and Eligibility for Investment

Any discussion of taxation and related matters contained in this prospectus does not purport to be a comprehensive description of all of the tax considerations that may be relevant to a Canadian investor when deciding to purchase the securities and, in particular, does not address any Canadian tax considerations. No representation or warranty is hereby made as to the tax consequences to a resident, or deemed resident, of Canada of an investment in the securities or with respect to the eligibility of the securities for investment by such investor under relevant Canadian federal and provincial legislation and regulations.

Rights of Action for Damages or Rescission

Securities legislation in certain of the Canadian jurisdictions provides certain purchasers of securities pursuant to an offering memorandum (such as this prospectus), including where the distribution involves an “eligible foreign security” as such term is defined in Ontario Securities Commission Rule 45-501 *Ontario Prospectus and Registration Exemptions* and in Multilateral Instrument 45-107 *Listing Representation and Statutory Rights of Action Disclosure Exemptions* , as applicable, with a remedy for damages or rescission, or both, in addition to any other rights they may have at law, where the offering memorandum, or other offering document that constitutes an offering memorandum, and any amendment thereto, contains a “misrepresentation” as defined under applicable Canadian securities laws. These remedies, or notice with respect to these remedies, must be exercised or delivered, as the case may be, by the purchaser within the time limits prescribed under, and are subject to limitations and defences under, applicable Canadian securities legislation. In addition, these remedies are in addition to and without derogation from any other right or remedy available at law to the investor.

Language of Documents

Upon receipt of this document, each Canadian investor hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the securities described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. *Par la réception de ce document, chaque investisseur canadien confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque manière que ce soit à la vente des valeurs mobilières décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.*

Notice to Prospective Investors in the European Economic Area

In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State") an offer to the public of any securities may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any securities may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- (a) to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- (b) to 150 natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or
- (c) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase any securities, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression "Prospectus Directive" means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression "2010 PD Amending Directive" means Directive 2010/73/EU.

Notice to Prospective Investors in the United Kingdom

Each underwriter has represented and agreed that:

- (a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA")) received by it in connection with the issue or sale of the securities in circumstances in which Section 21(1) of the FSMA does not apply to us; and
- (b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

Notice to Prospective Investors in Switzerland

The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the "SIX") or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

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Neither this document nor any other offering or marketing material relating to the offering, or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (“CISA”). Accordingly, no public distribution, offering or advertising, as defined in CISA, its implementing ordinances and notices, and no distribution to any non-qualified investor, as defined in CISA, its implementing ordinances and notices, shall be undertaken in or from Switzerland, and the investor protection afforded to acquirers of interests in collective investment schemes under CISA does not extend to acquirers of securities.

LEGAL MATTERS

Certain legal matters with respect to the securities offered hereby have been passed upon by Ballard Spahr LLP and certain legal matters will be passed upon for the underwriters by Cooley LLP.

EXPERTS

The consolidated financial statements as of December 31, 2016 and 2015, and for each of the three years in the period ended December 31, 2016, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2016, incorporated by reference in this prospectus supplement have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting. The report on the consolidated financial statements incorporated herein by reference contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

WHERE CAN YOU FIND MORE INFORMATION

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 that we filed with the SEC under the Securities Act. This prospectus supplement and the accompanying prospectus do not contain all of the information included in the registration statement. We have omitted certain parts of the registration statement in accordance with the rules and regulations of the SEC. For further information, we refer you to the registration statement, including its exhibits and schedules. Statements contained in this prospectus supplement and the accompanying prospectus about the provisions or contents of any contract, agreement or any other document referred to are not necessarily complete. Please refer to the actual exhibit for a more complete description of the matters involved.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings, including the registration statement and exhibits, are available to the public at the SEC's website at <http://www.sec.gov>. You may also read, without charge, and copy the documents we file, at the SEC's public reference rooms at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms.

We maintain an Internet site at www.transenterix.com. We have not incorporated by reference into this prospectus supplement or the accompanying prospectus the information on our website, and you should not consider any of the information posted on or hyper-linked to our website to be a part of this prospectus supplement or the accompanying prospectus.

INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with the SEC, which means we can disclose important information to you by referring you to those documents. The information we incorporate by reference is an important part of this prospectus supplement, and certain information that we will later file with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below as well as any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this prospectus supplement until we sell all of the securities under this prospectus supplement, except that we do not incorporate any document or portion of a document that is "furnished" to the SEC, but not deemed "filed." The following documents filed with the SEC are incorporated by reference in this prospectus supplement and the accompanying prospectus:

- our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 6, 2017;
- our Current Reports on Form 8-K filed with the SEC on January 5, 2017 (Items 1.01, 8.01 and 9.01) and February 23, 2017 (Item 8.01);

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- our definitive proxy statement on Schedule 14A, filed with the SEC on April 21, 2017; and
- the description of the Company's common stock contained in the Registration Statement on Form 8-A filed on April 7, 2014, and any amendments to each such Registration Statement filed subsequently thereto, including all amendments or reports filed for the purpose of updating such description.

We will furnish to you, on written or oral request, a copy of any or all of the documents that have been incorporated by reference, including exhibits to these documents. You may request a copy of these filings at no cost by writing or telephoning our Secretary at the following address and telephone number:

TransEnterix, Inc.
Attention: Joshua Weingard, Chief Legal Officer and Secretary
635 Davis Drive, Suite 300
Morrisville, NC 27560
Telephone No.: (919) 765-8400

PROSPECTUS



\$150,000,000
Common Stock
Preferred Stock
Warrants
Debt Securities
Units

We are refreshing our existing shelf registration statement initially declared effective on December 19, 2014 so that we may offer and sell from time to time, in one or more offerings, up to \$150,000,000 of any combination of common stock, preferred stock, warrants and debt securities, either individually or units consisting of any two or more of such securities. We may also offer securities upon the exercise of warrants. As of the date of this filing, we have sold \$81,200,000 of the securities registered hereunder in public offerings, leaving an aggregate of \$68,800,000 available for future offers and sales of the securities to be offered under this prospectus.

Each time we sell securities pursuant to this prospectus, we will provide the specific terms of the securities offered in a supplement to this prospectus. The prospectus supplements will also describe the specific manner in which we will offer these securities and may also supplement, update or amend information contained in this prospectus. You should read this prospectus and any related prospectus supplement carefully before you invest in our securities.

The securities being registered for the account of the Company may be sold on a delayed or continuous basis directly by us, through dealers, agents or underwriters designated from time to time, or through any combination of these methods. If any dealers, agents or underwriters are involved in the sale of the securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in any prospectus supplement.

Our common stock is traded on the NYSE MKT under the symbol "TRXC." On March 7, 2016, the closing price of our common stock was \$3.94 per share.

Investing in our securities involves a high degree of risk. See "[RISK FACTORS](#)" on page 6.

This prospectus may not be used to offer or sell securities unless accompanied by a prospectus supplement for the securities being sold.

Neither the Securities and Exchange Commission nor any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus is June 22, 2016.

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You should rely only on the information contained in this prospectus and in any prospectus supplement (including in any documents incorporated by reference herein or therein). We have not authorized anyone to provide you with any different information. We are offering to sell our securities, and seeking offers to buy, only in jurisdictions where offers and sales are permitted.

PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our securities. You should read this entire prospectus carefully, especially the “Risk Factors” section beginning on page 6 and our financial statements and the related notes incorporated by reference into this prospectus, before making an investment decision. In this prospectus, we refer to TransEnterix, Inc., a Delaware corporation, as “TransEnterix,” the “Company,” “we,” “us” or “our.”

Company Overview

We are a medical device company that is pioneering the use of robotics to improve minimally invasive surgery by addressing the clinical challenges associated with current laparoscopic and robotic options. The Company is focused on the commercialization and further development of the ALF-X[®] Surgical Robotic System, or the ALF-X System, a multi-port robotic system that brings the advantages of robotic surgery to patients while enabling surgeons with innovative technology, and on the development and commercialization of the SurgiBot[™] System, or SurgiBot System, a single -port, robotically enhanced laparoscopic surgical platform. The ALF-X System has been granted a CE Mark in Europe for laparoscopic abdominal and pelvic surgery, as well as limited thoracic operations excluding cardiac and vascular surgery, but is not available for sale in the U.S. The SurgiBot System has been submitted for clearance to the U.S. Food and Drug Administration, or FDA, and is not yet available for sale in any market.

The ALF-X System is a multi-port robotic surgery system which allows multiple robotic arms to control instruments and a camera. The system features advanced technology to enable surgeons with haptic feedback and the ability to move the camera via eye movement. The system replicates laparoscopic motion that is familiar to experienced surgeons, and integrates 3DHD vision technology. The ALF-X System also offers responsible economics to hospitals by offering robotic technology with reusable instruments thereby reducing additional costs per surgery when compared to laparoscopy.

The SurgiBot System is designed to utilize flexible instruments through articulating channels controlled directly by the surgeon, with robotic assistance, while the surgeon remains patient-side within the sterile field. The flexible nature of the SurgiBot System allows for multiple instruments to be introduced and deployed through a single site, thereby offering room for visualization and manipulation once inside the body. The SurgiBot System also allows for three-dimensional high definition, or 3DHD, vision technology. On June 1, 2015, we submitted our 510(k) application to the FDA for clearance of the SurgiBot System which was accepted for review. In August 2015, the FDA requested additional information related to the SurgiBot System 510(k) submission. We responded to that additional information request in February 2016. We anticipate that we will receive FDA clearance for the SurgiBot System by the end of the first quarter of 2016 and thereafter intend to launch sales of the SurgiBot System during the second quarter of 2016.

We believe that future advancements in robotic surgery will leverage three growth drivers: (1) build on the success of laparoscopy while addressing limitations; (2) develop innovative technology that addresses trade-offs; and (3) provide a compelling economic value to hospitals. The ALF-X System and the SurgiBot System are designed to meet those needs, and help expand robotic surgery to more diverse markets and a wide range of patients.

Our strategy is to focus our resources on the commercialization and further development of the ALF-X System and on the development and commercialization of the SurgiBot System.

From our inception, we devoted a substantial percentage of our resources to research and development and start-up activities, consisting primarily of product design and development, clinical studies, manufacturing, recruiting qualified personnel and raising capital.

Since inception, we have been unprofitable. As of December 31, 2015, we had an accumulated deficit of approximately \$182.9 million. We expect to continue to invest in research and development and related clinical studies, and increase selling, general and administrative expenses as we grow. As a result, we will need to generate significant revenue in order to achieve profitability.

We operate in one business segment.

Recent Events

Acquisition of ALF- X Surgical Robotic System

On September 18, 2015, we entered into a Membership Interest Purchase Agreement, or the Purchase Agreement, with Sofar S.p.A., or Sofar, Vulcanos S.r.l., or Vulcanos, as the acquired company, and TransEnterix International, Inc., or TransEnterix International, a wholly owned subsidiary of the Company. The closing of the transactions occurred on September 21, 2015, or the Closing Date, pursuant to which we acquired all of the membership interests of Vulcanos from Sofar, or the ALF-X Acquisition, and changed the name of Vulcanos to TransEnterix Italia S.r.l, or TransEnterix Italia. The acquisition included all of the assets, employees and contracts related to the advanced robotic system for minimally invasive laparoscopic surgery known as the ALF-X System.

Under the terms of the Purchase Agreement, the consideration consisted of the issuance of 15,543,413 shares of our common stock, or the Securities Consideration, and approximately \$25 million U.S. Dollars and €27.5 million Euro in cash consideration, or the Cash Consideration. The Securities Consideration was issued in full at the closing of the ALF-X Acquisition; the Cash Consideration was or will be paid in four tranches, as follows:

- (1) \$25 million of the Cash Consideration was paid at closing;
- (2) The second tranche of the Cash Consideration, or the Second Tranche, of €10 million, shall be payable after the achievement of both of the following milestones (i) the earlier of approval from the FDA for the ALF-X System or December 31, 2016, and (ii) the Company having cash on hand of at least \$50 million, or successfully completing a financing, raising at least \$50 million in gross proceeds; with payment of simple interest at a rate of 9.0% per annum between the achievement of the first milestone event and the payment date;
- (3) The third tranche of the Cash Consideration, or the Third Tranche, of €15 million shall be payable upon achievement of trailing revenues from sales or services contracts of the ALF-X System of at least €25 million over a calendar quarter; and
- (4) The fourth tranche of the Cash Consideration of €2.5 million shall be payable by December 31, 2016 as reimbursement for certain debt payments made by Sofar under an existing Sofar loan agreement.

The Third Tranche will be payable even if the Second Tranche is not then payable. In addition, the Second Tranche and Third Tranche payments will be accelerated in the event that (i) the Company or TransEnterix International is acquired, (ii) the Company significantly reduces or suspends selling efforts of the ALF-X System, or (iii) the Company acquires a business that offers alternative products that are directly competitive with the ALF-X System.

Under the Purchase Agreement, 10% of the Securities Consideration is being held in escrow to support Sofar's representations and warranties under the Purchase Agreement. The Company and Sofar also entered into a Security Agreement, which provides that 10% of the membership interests of TransEnterix Italia have a lien placed thereon by and in favor of Sofar to support the Company's representations and warranties under the Purchase Agreement. The escrow period and security interest period are each twenty-four months after the closing of the ALF-X Acquisition.

The Purchase Agreement contains customary representations and warranties of the parties and the parties have customary indemnification obligations, which are subject to certain limitations described further in the Purchase Agreement.

In connection with the ALF-X Acquisition, we also entered into a Registration Rights Agreement, dated as of September 21, 2015, with Sofar, pursuant to which we agreed to register the Securities Consideration shares for resale following the end of the lock-up periods described below.

In connection with the ALF-X Acquisition, Sofar entered into a Lock-Up Agreement with the Company pursuant to which Sofar agreed, subject to certain exceptions, not to sell, transfer or otherwise convey any of the Securities Consideration for one year following the Closing Date. The Lock-Up Agreement provides that Sofar may sell, transfer or convey: (i) no more than 50% of the Securities Consideration during the period commencing on the one-year anniversary of the Closing Date and ending on the eighteen -month anniversary of the Closing Date; and (ii) no more than 75% of the Securities Consideration during the period commencing on the eighteen -month anniversary of the Closing Date and ending on the two-year anniversary of the Closing Date. The restrictions on transfer contained in the Lock-Up Agreement cease to apply to the Securities Consideration following the second anniversary of the Closing Date, or earlier upon certain other conditions.

Public Offerings under this Shelf Registration Statement

On February 20, 2015, we entered into a Controlled Equity Offering SM Sales Agreement, or the 2015 Sales Agreement, with Cantor Fitzgerald & Co., or Cantor, as sales agent, pursuant to which we offered and sold, through Cantor, \$25 million in shares of common stock in an at-the-market offering, or the 2015 ATM Offering. As of February 12, 2016, the 2015 ATM Offering has been fully sold with 7,724,488 shares issued. The common stock was offered and sold pursuant to the shelf registration statement on Form S-3 (File No. 333-199998) of which this prospectus forms a part.

On June 11, 2015, we sold 16,666,667 shares of common stock at a public offering price of \$3.00 per share for aggregate gross proceeds of \$50.0 million in an underwritten firm commitment public offering. Net proceeds after issuance costs were \$46.4 million. We granted the underwriters an option, exercisable for 30 days, to purchase up to an additional 2,500,000 shares of common stock. The common stock was offered and sold pursuant to the shelf registration statement on Form S-3 (File No. 333-199998) of which this prospectus forms a part. The closing of the public offering occurred on June 17, 2015. On July 10, 2015, the underwriters exercised a portion of their option and acquired an additional 2,075,000 shares at the public offering price of \$3.00 per share for aggregate additional gross proceeds of \$6.2 million. Net proceeds after issuance costs were \$5.8 million. The purchase of the option shares closed on July 15, 2015. Total proceeds (including the option) were \$52.2 million, net of issuance costs of \$4.0 million.

2014 Reverse Stock Split

On March 31, 2014, we effectuated a reverse stock split of our issued and outstanding shares of common stock at a ratio of 1 for 5, or the Reverse Stock Split. As a result of the Reverse Stock Split, the Company's issued and outstanding stock decreased from 244,276,923 to 48,855,255 shares of common stock, all with a par value of \$0.001. All information in this prospectus related to common stock, stock options, RSUs, warrants and earnings per share for prior periods has been retroactively adjusted in this prospectus to give effect to the Reverse Stock Split, except for the reference to the Merger Exchange Ratio of 1.1533 described below.

2013 Merger

On September 3, 2013, TransEnterix Surgical, Inc. a Delaware corporation, or TransEnterix Surgical, and SafeStitch Medical, Inc., a Delaware corporation, or SafeStitch, consummated a merger transaction whereby TransEnterix Surgical merged with a merger subsidiary of SafeStitch, with TransEnterix Surgical as the surviving entity in the merger, or the Merger. As a result of the Merger, TransEnterix Surgical became a wholly owned subsidiary of SafeStitch.

Pursuant to the merger agreement, each share of TransEnterix Surgical's capital stock issued and outstanding immediately preceding the Merger was converted into the right to receive 1.1533 shares, or the Exchange Ratio, of SafeStitch's common stock, par value \$0.001 per share, other than those shares of TransEnterix Surgical's common stock held by non-accredited investors, which shares were instead converted into the right to receive an amount in cash per share of SafeStitch common stock equal to \$1.08, without interest, which was the volume-weighted average price of a share of SafeStitch common stock on the OTCBB for the 60-trading day period ended on August 30, 2013 (one business day prior to the effective date of the Merger). Additionally, pursuant to the merger agreement, upon consummation of the Merger, SafeStitch assumed all of TransEnterix Surgical's options and warrants issued and outstanding immediately prior to the Merger at the same Exchange Ratio.

Company Information

We were organized as a Delaware corporation on August 19, 1988. Our principal executive offices are located at 635 Davis Drive, Suite 300, Morrisville, NC 27560. Our phone number is (919) 765-8400 and our Internet address is www.transenterix.com. In December 2013, we changed our name to TransEnterix, Inc. from SafeStitch Medical, Inc. The information on our website or any other website is not incorporated by reference in this prospectus and does not constitute a part of this prospectus.

As used herein, the terms "Company," "we" or "us" each refers to both the combination of SafeStitch and TransEnterix Surgical after giving effect to the Merger, and the addition of TransEnterix International and TransEnterix Italia after giving effect to the ALF-X Acquisition, unless the context otherwise provides. The term "SafeStitch" refers to the historic business of SafeStitch Medical, Inc. prior to the Merger, and the term "TransEnterix Surgical" refers to the historic business of TransEnterix Surgical, Inc. prior to the Merger.

ABOUT THIS PROSPECTUS

This prospectus is part of a "shelf" registration statement that we filed with the U.S. Securities and Exchange Commission, or SEC. By using a shelf registration statement, after the date of this prospectus we may, from time to time, issue any combination of the securities described in this prospectus in one or more offerings up to an aggregate maximum offering price of \$68,800,000 in one or more offerings. Each time we sell any of our securities, we will provide a prospectus supplement that will contain more specific information about the offering and the terms of the securities being sold. We may also add, update or change in the prospectus supplement any of the information contained in this prospectus or the documents incorporated by reference.

This prospectus provides you with a general description of the Company and our securities. For further information about our business and our securities, you should refer to the registration statement and the reports incorporated by reference in this prospectus, as described in "Where You Can Find More Information."

You should rely only on the information contained in this prospectus and in any prospectus supplement (including in any documents incorporated by reference herein or therein). We have not authorized anyone to provide you with any different information. We are offering to sell our securities, and seeking offers to buy, only in jurisdictions where offers and sales are permitted.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward -looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the Securities Act), and Section 21E of the Securities Exchange Act of 1934, as amended (the Exchange Act). All statements, other than statements of historical fact, included or incorporated in this prospectus regarding our strategy, future operations, collaborations, intellectual property, cash resources, financial position, future revenues, projected costs, prospects, plans, and objectives of management are forward-looking statements. The words “believes,” “anticipates,” “estimates,” “plans,” “expects,” “intends,” “may,” “could,” “should,” “potential,” “likely,” “projects,” “continue,” “will,” and “would” and similar expressions are intended to identify forward -looking statements, although not all forward -looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward -looking statements and you should not place undue reliance on our forward -looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward -looking statements. These important factors include those referenced below under the heading “Risk Factors.” These factors and the other cautionary statements made in this prospectus should be read as being applicable to all related forward -looking statements whenever they appear in this prospectus. In addition, any forward -looking statements represent our estimates only as of the date that this prospectus is filed with the SEC, and should not be relied upon as representing our estimates as of any subsequent date. We do not assume any obligation to update any forward -looking statements. We disclaim any intention or obligation to update or revise any forward -looking statement, whether as a result of new information, future events or otherwise.

RISK FACTORS

Investing in our securities involves substantial risks. In addition to other information contained in this prospectus and any accompanying prospectus supplement, before investing in our securities, you should carefully consider the risks described under the heading “Risk Factors” in our most recent Annual Report on Form 10-K, as it may be amended, and subsequent Quarterly Reports on Form 10-Q, and in any other documents incorporated by reference into this prospectus, as updated by our future filings. These risks are not the only ones faced by us. Additional risks not known or that are deemed immaterial could also materially and adversely affect our financial condition, results of operations, our products, business and prospects. Any of these risks might cause you to lose all or a part of your investment.

USE OF PROCEEDS

Unless otherwise indicated in the applicable prospectus supplement, we intend to use the net proceeds from the sale of the securities under this prospectus together with our existing cash resources, for working capital and other general corporate purposes. We may also use a portion of the net proceeds that we receive to fund commercialization activities or to acquire or invest in complementary businesses, products, services, technologies, or other assets. At this time, we have not determined the specific uses of any offering proceeds, or the amounts we plan to spend on any particular use or the timing of such expenditures, which may vary significantly depending on various factors such as our research and development activities, regulatory approvals, competition, marketing and sales, and the market acceptance of any products introduced by us or our partners. Pending application of the net proceeds from any particular offering, we intend to invest such proceeds in short-term, interest-bearing, investment -grade securities.

Each time we issue securities, we will provide a prospectus supplement that will contain information about how we intend to use the proceeds from each such offering.

We cannot guarantee that we will receive any proceeds in connection with any offering hereunder because we may choose not to issue any of the securities covered by this prospectus.

PLAN OF DISTRIBUTION

We may sell the securities being offered hereby from time to time in one or more of the following ways:

- through one or more underwriters;
- through dealers, who may act as agents or principal (including a block trade in which a broker or dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction);
- directly to one or more purchasers;
- through agents;
- through registered direct offerings;
- as part of a collaboration with a third party;

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- through “at the market” offerings, within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market on an exchange or otherwise;
- in privately negotiated transactions; and
- in any combination of these methods of sale.

We will set forth in a prospectus supplement the terms of the offering of securities, including:

- the name or names of any agents, underwriters or dealers;
- the terms of the securities being offered, including the purchase price and the proceeds we will receive from the sale;
- any underwriting discounts and commissions or agency fees and other items constituting underwriters’ or agents’ compensation;
- any over -allotment options under which underwriters may purchase additional securities from us; and
- any discounts or concessions allowed or reallocated or paid to dealers.

The distribution of the securities may be effected from time to time in one or more transactions at a fixed price or prices, which may be changed, at market prices prevailing at the time of sale, at prices related to the prevailing market prices, or at negotiated prices.

Underwriters, dealers, agents and others that participate in the distribution of the securities may be underwriters as defined in the Securities Act and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act. In no event will the total amount of cash compensation paid to underwriters, placement agents, dealers or brokers exceed 10% of the gross proceeds of the offering. We will identify in the applicable prospectus supplement any underwriters, dealers, agents and others and will describe their compensation. We may have agreements with underwriters, dealers, agents and others to indemnify them against specified civil liabilities, including liabilities under the Securities Act. Underwriters, dealers, agents and others may engage in transactions with or perform services for us in the ordinary course of their businesses.

If required under applicable state securities laws, we will sell the securities only through registered or licensed brokers or dealers. In addition, in with an exemption from any registration or qualification requirements.

Agents

We may designate agents who agree to solicit purchases for the period of their appointment or to sell securities on a continuing basis. Unless the prospectus supplement provides otherwise, agents will act on a best efforts basis for the period of their appointment. Agents may receive compensation in the form of commissions, discounts or concessions from us. Agents may also receive compensation from the purchasers of the securities for whom they sell as principals. Each particular agent will receive compensation in amounts negotiated in connection with the sale, which might be in excess of customary commissions.

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Underwriters

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. Unless the prospectus supplement provides otherwise, underwriters will be obligated to purchase all of the securities offered by the prospectus supplement. We may change from time to time any initial public offering price and any discounts or concessions the underwriters allow or reallow or pay to dealers. We may use underwriters with whom we have a material relationship, and we may offer the securities to the public through an underwriting syndicate or through a single underwriter. We will describe in the prospectus supplement naming the underwriter the nature of any such relationship and underwriting arrangement.

Dealers

We also may sell securities to a dealer as principal. If we sell our securities to a dealer as a principal, then the dealer may resell those securities to the public at varying prices to be determined by such dealer at the time of resale. The name of the dealer and the terms of the transactions will be set forth in the applicable prospectus supplement.

Direct Sales and Institutional Purchases

We may also sell securities directly to one or more purchasers, in which case underwriters or agents would not be involved in the transaction.

Further, we may authorize agents, underwriters or dealers to solicit offers by certain types of institutional investors to purchase securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. We will describe the conditions to these contracts and the commissions we must pay for solicitation of these contracts in an applicable prospectus supplement.

Stabilization Activities

Any underwriter may engage in over-allotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act.

Over-allotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Such activities may cause the price of the securities to be higher than they would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. These transactions may be effected on the NYSE MKT or otherwise.

Passive Market Making

Any underwriters who are qualified market makers on the NYSE MKT may engage in passive market making transactions on the NYSE MKT in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security; if all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

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Costs

We will bear all costs, expenses and fees in connection with the registration of the securities, as well as the expense of all commissions and discounts, if any, attributable to sales of the securities by us.

DESCRIPTION OF CAPITAL STOCK

Our authorized capital stock consists of 750,000,000 shares of common stock, par value \$0.001 per share, and 25,000,000 shares of preferred stock, par value \$0.01 per share.

Common Stock

Of the authorized common stock, as of March 7, 2016, there were 106,609,302 shares outstanding and as of December 31, 2015, there were 10,149,941 shares of our common stock reserved for the exercise of outstanding stock options, warrants and restricted stock units. There were approximately 248 record holders as of February 29, 2016. Subject to the prior rights of the holders of any shares of preferred stock which may be issued in the future, the holders of our common stock are entitled to receive dividends from our funds legally available therefor when, as and if declared by our Board of Directors, and are entitled to share ratably in all of our assets available for distribution to holders of our common stock upon the liquidation, dissolution or winding-up of our affairs, subject to the liquidation preference, if any, of any then outstanding shares of preferred stock. Holders of our common stock do not have any preemptive, subscription, redemption or conversion rights. Holders of our common stock are entitled to one vote per share on all matters which they are entitled to vote upon at meetings of stockholders or upon actions taken by written consent pursuant to Delaware corporate law. The holders of our common stock do not have cumulative voting rights, which mean that the holders of a plurality of the outstanding shares can elect all of our directors. All of the shares of our common stock currently issued and outstanding are fully-paid and nonassessable. No dividends have been paid to holders of our common stock since our incorporation, and no cash dividends are anticipated to be declared or paid in the reasonably foreseeable future.

Transfer Agent.

The transfer agent for our common stock is Continental Stock & Transfer Company.

Listing.

The shares of our common stock are currently listed on the NYSE MKT under the symbol "TRXC."

Preferred Stock

Our Board has the authority, without further action by the holders of the outstanding common stock, to issue preferred stock from time to time in one or more classes or series, to fix the number of shares constituting any class or series and the stated value thereof, if different from the par value, as to fix the terms of any such series or class, including dividend rights, dividend rates, conversion or exchange rights, voting rights, rights and terms of redemption (including sinking fund provisions), the redemption price and the liquidation preference of such class or series.

Anti-Takeover Effects of Certain Provisions of our Certificate of Incorporation, our By -Laws and Delaware Law

Delaware Statute

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years after the date of the transaction in which the person became an interested stockholder, unless:

- prior to such date, our board of directors approves either the business combination or the transaction that resulted in the stockholder’s becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owns at least 85% of our outstanding voting stock, excluding shares held by directors, officers and certain employee stock plans; or
- on or after the consummation date, the business combination is approved by our board of directors and by the affirmative vote at an annual or special meeting of stockholders holding at least two-thirds of our outstanding voting stock that is not owned by the interested stockholder.

For purposes of Section 203, a “business combination” includes, among other things, a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder, and an “interested stockholder” is generally a person who, together with affiliates and associates of such person:

- owns 15% or more of outstanding voting stock; or
- is an affiliate or associate of ours and was the owner of 15% or more of our outstanding voting stock at any time within the prior three years.

Certificate of Incorporation and Bylaw Provisions

Our amended and restated certificate of incorporation and amended and restated bylaws include provisions that, among others, could have the effect of delaying, deferring or discouraging potential acquisition proposals and could delay or prevent a change of control of us. The provisions in our certificate of incorporation and bylaws that may have such effect include:

- Preferred Stock. As noted above, our board of directors, without stockholder approval, has the authority under our certificate of incorporation to issue preferred stock with rights superior to the rights of the holders of common stock. As a result, we could issue preferred stock quickly and easily, which could adversely affect the rights of holders of our common stock and could be issued with terms calculated to delay or prevent a change of control or make removal of management more difficult.
- Stockholder Meetings. Under our certificate of incorporation, as amended, and bylaws, special meetings of our stockholders may be called only by the vote of a majority of the entire Board of Directors or the chairman of the Board of Directors. Our stockholders may not call a special meeting of the stockholders.

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- Requirements for Advance Notification of Stockholder Nominations and Proposals. Our bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our Board of Directors or a committee thereof.

DESCRIPTION OF DEBT SECURITIES

General

The debt securities that we may issue will constitute debentures, notes, bonds or other evidences of indebtedness of the Company, to be issued in one or more series. The particular terms of any series of debt securities we offer, including the extent to which the general terms set forth below may be applicable to a particular series, will be described in a prospectus supplement relating to such series.

Debt securities that we may issue will be issued under an indenture between us and a trustee qualified to act as such under the Trust Indenture Act of 1939. When we refer to the “indenture” in this prospectus, we are referring to the indenture under which debt securities are issued as supplemented by any supplemental indenture applicable to such debt securities. We will provide the name of the trustee in any prospectus supplement related to the issuance of debt securities, and we will also provide certain other information related to the trustee, including describing any relationship we have with the trustee, in such prospectus supplement.

Unless otherwise specified in a prospectus supplement, the debt securities will be direct secured or unsecured obligations of the Company. The senior debt securities will rank equally with any of our other unsecured senior and unsubordinated debt. The subordinated debt securities will be subordinate and junior in right of payment to any senior indebtedness.

We may issue debt securities from time to time in one or more series, in each case with the same or various maturities, at par or at a discount. Unless indicated in a prospectus supplement, we may issue additional debt securities of a particular series without the consent of the holders of the debt securities of such series outstanding at the time of the issuance. Any such additional debt securities, together with all other outstanding debt securities of that series, will constitute a single series of debt securities under the applicable indenture and will be equal in ranking.

The following statements relating to the debt securities and the indenture are summaries and do not purport to be complete, and are subject in their entirety to the detailed provisions of the indenture.

Information to be provided in a Prospectus Supplement

The prospectus supplement will set forth the following terms of the debt securities in respect of which this prospectus is delivered:

- the title and denominations of the debt securities of the series;
- any limit on the aggregate principal amount of the debt securities of the series;
- the date or dates on which the principal and premium, if any, with respect to the debt securities of the series are payable or the method of determination thereof;

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- the rate or rates, which may be fixed or variable, at which the debt securities of the series shall bear interest, if any, or the method of calculating and/or resetting such rate or rates of interest;
- the dates from which such interest shall accrue or the method by which such dates shall be determined and the duration of the extensions and the basis upon which interest shall be calculated;
- the interest payment dates for the series of debt securities or the method by which such dates will be determined, the terms of any deferral of interest and any right of ours to extend the interest payments periods;
- the terms and conditions upon which debt securities of the series may be redeemed, in whole or in part, at our option or otherwise;
- our obligation, if any, to redeem, purchase, or repay debt securities of the series pursuant to any sinking fund or other specified event or at the option of the holders and the terms of any such redemption, purchase, or repayment;
- the terms, if any, upon which the debt securities of the series may be convertible into or exchanged for preferred stock or common stock, including, among other things, the initial conversion or exchange price or rate and the conversion or exchange period;
- if the amount of principal, premium, if any, or interest with respect to the debt securities of the series may be determined with reference to an index or formula, the manner in which such amounts will be determined;
- if any payments on the debt securities of the series are to be made in a currency or currencies (or by reference to an index or formula) other than that in which such securities are denominated or designated to be payable, the currency or currencies (or index or formula) in which such payments are to be made and the terms and conditions of such payments;
- any changes or additions to the provisions of the indenture dealing with defeasance, including any additional covenants that may be subject to our covenant defeasance option;
- the currency or currencies in which payment of the principal and premium, if any, and interest with respect to debt securities of the series will be payable, or in which the debt securities of the series shall be denominated, and the particular provisions applicable thereto in accordance with the indenture;
- the portion of the principal amount of debt securities of the series which will be payable upon declaration of acceleration or provable in bankruptcy or the method by which such portion or amount shall be determined;
- whether the debt securities of the series will be secured and, if so, on what terms;

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- any events of default with respect to the debt securities of the series;
- the identity of any trustees, authenticating or paying agents, transfer agents or registrars;
- the applicability of, and any addition to or change in, the covenants currently set forth in the indenture;
- the subordination, ranking or priority, if any, of the debt securities of the series and terms of the subordination;
- any other terms of the debt securities of the series which are not prohibited by the indenture; and
- whether securities of the series shall be issuable as registered securities or bearer securities (with or without interest coupons), and any restrictions applicable to the offering, sale or delivery of such bearer securities and the terms upon which such bearer securities of a series may be exchanged for registered securities, and vice versa.

Interest Rate

Debt securities that bear interest will do so at a fixed rate or a floating rate. We may sell, at a discount below the stated principal amount, any debt securities which bear no interest or which bear interest at a rate that at the time of issuance is below the prevailing market rate. The relevant prospectus supplement will describe the special United States federal income tax considerations applicable to any discounted debt securities and any debt securities issued at par which are treated as having been issued at a discount for United States federal income tax purposes.

Transfer and Exchange

We may issue debt securities that would be represented by either:

(a) “book-entry securities,” which means that there will be one or more global securities registered in the name of The Depository Trust Company, as depository, or a nominee of the depository; or

(b) “certificated securities,” which means that they will be represented by a certificate issued in definitive registered form.

We would specify in the prospectus supplement applicable to a particular offering whether the debt securities offered will be book-entry or certificated securities. Except as set forth under “Global Debt Securities and Book-Entry System” below, book-entry debt securities would not be issuable in certificated form.

Certificated Debt Securities

If you hold certificated debt securities that have been offered by this prospectus, you may transfer or exchange them at the trustee’s office or at the paying agency in accordance with the terms of the indenture. You would not be charged a service charge for any transfer or exchange of certificated debt securities, but may be required to pay an amount sufficient to cover any tax or other governmental charge payable in connection with the transfer or exchange.

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The transfer of certificated debt securities and of the right to receive the principal of, premium and/or interest, if any, on your certificated debt securities can occur only by surrendering the certificate representing your certificated debt securities and having us or the trustee issue a new certificate to the new holder.

Global Debt Securities and Book-Entry System

If we decided to issue debt securities in the form of one or more global securities, then we would register the global securities in the name of the depository for the global securities or in the nominee of the depository, and the global securities would be delivered by the trustee to the depository for credit to the accounts of the holders of beneficial interest in the debt securities. Each global security would:

- be registered in the name of a depository, or its nominee, that we would identify in a prospectus supplement;
- be deposited with the depository or nominee or custodian; and
- bear any required legends.

No global security may be exchanged in whole or in part for debt securities registered in the name of any person other than the depository or any nominee unless:

- the depository has notified us that it is unwilling or unable to continue as depository or has ceased to be qualified to act as depository;
- an event of default has occurred and is continuing with respect to the debt securities of the applicable series; or
- any other circumstance described in a prospectus supplement has occurred permitting or requiring the issuance of any such security.

As long as the depository, or its nominee, is the registered owner of a global security, the depository or nominee would be considered the sole owner and holder of the debt securities represented by the global security for all purposes under the indentures. Except in the above limited circumstances, owners of beneficial interests in a global security would not be:

- entitled to have the debt securities registered in their names;
- entitled to physical delivery of certificated debt securities; or
- considered to be holders of those debt securities under the indenture.

Payments on a global security would be made to the depository or its nominee as the holder of the global security. Some jurisdictions have laws that require that certain purchasers of securities take physical delivery of such securities in definitive form. These laws may impair the ability to transfer beneficial interests in a global security.

Institutions that have accounts with the depository or its nominee are referred to as “participants.” Ownership of beneficial interests in a global security would be limited to participants and to persons that may hold beneficial interests through participants. The depository would credit, on its book-entry registration and transfer system, the respective principal amounts of debt securities represented by the global security to the accounts of its participants.

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Ownership of beneficial interests in a global security would be shown on and effected through records maintained by the depository, with respect to participants' interests, or any participant, with respect to interests of persons held by participants on their behalf.

Payments, transfers and exchanges relating to beneficial interests in a global security would be subject to policies and procedures of the depository. The depository policies and procedures may change from time to time. Neither any trustee nor we would have any responsibility or liability for the depository's or any participant's records with respect to beneficial interests in a global security.

The prospectus supplement would describe the specific terms of the depository arrangement for debt securities of a series that are issued in global form. The Company and its agents, the trustee, and any of its agents would not have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in the global debt security or for maintaining, supervising or reviewing any records relating to the beneficial ownership interests.

Conversion or Exchange Rights

Debt securities offered hereby may be convertible into or exchangeable for shares of our common or preferred stock. The terms and conditions of such conversion or exchange will be set forth in the applicable prospectus supplement. Such terms may include, among others, the following:

- the conversion or exchange price;
- the conversion or exchange period;
- provisions regarding our ability or that of the holder to convert or exchange the debt securities;
- events requiring adjustment to the conversion or exchange price; and
- provisions affecting conversion or exchange in the event of our redemption of such debt securities.

Covenants

Unless otherwise indicated in a prospectus supplement, the debt securities would not have the benefit of any covenants that limit or restrict our business or operations, the pledging of our assets or the incurrence by us of indebtedness. We would describe in the applicable prospectus supplement any material covenants of a series of debt securities.

Concerning the Trustee

We would identify the trustee with respect to any series of debt securities in the prospectus supplement relating to the debt securities. You should note that if the trustee becomes a creditor of the Company, the indenture and the Trust Indenture Act of 1939 limit the rights of the trustee to obtain payment of claims in certain cases, or to realize on certain property received in respect of certain claims, as security or otherwise. The trustee and its affiliates may engage in, and would be permitted to continue to engage in, other transactions with us and our affiliates. If, however, the trustee acquires any "conflicting interest" within the meaning of the Trust Indenture Act of 1939, it must eliminate the conflict or resign.

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The holders of a majority in principal amount of the then outstanding debt securities of any series may direct the time, method and place of conducting any proceeding for exercising any remedy available to the trustee. If an event of default occurs and is continuing, the trustee, in the exercise of its rights and powers, must use the degree of care and skill of a prudent person in the conduct of his or her own affairs. Subject to this provision, the trustee would be under no obligation to exercise any of its rights or powers under the indenture at the request of any of the holders of the debt securities, unless they have offered to the trustee reasonable indemnity or security.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase preferred stock or common stock. We may offer warrants separately or together with one or more additional warrants, debt securities, shares of preferred stock or common stock, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. If we issue warrants as part of a unit, the prospectus supplement will specify whether those warrants may be separated from the other securities in the unit prior to the warrants' expiration date. We may issue the warrants under warrant agreements to be entered into between us and a bank or trust company, as warrant agent, all as described in the prospectus supplement. If we issue the warrants under warrant agreements, the warrant agent will act solely as our agent in connection with the warrants and will not assume any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants.

We will describe the particular terms of any warrants that we offer in the prospectus supplement relating to those warrants. Those terms may include the following:

- the specific designation and aggregate number of warrants, and the price at which we will issue the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the date on which the right to exercise the warrants will begin and the date on which the right will expire or, if the warrants are not continuously exercisable throughout that period, the specific date or dates on which they are exercisable;
- whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms;
- any applicable material United States federal income tax considerations;
- the identity of the warrant agent, if any, for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the designation, aggregate principal amount, currency, denomination and terms of any debt securities that may be purchased upon exercise of the warrants;
- the designation, amount, currency, denominations and terms of any preferred stock or common stock purchasable upon exercise of the warrants;

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- if applicable, the designation and terms of the debt securities, preferred stock or common stock with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and the related debt securities, preferred stock or common stock will be separately transferable;
- the principal amount of debt securities or the number of shares of preferred stock or common stock purchasable upon exercise of any warrant and the price at which those shares may be purchased;
- provisions for changes to or adjustments in the exercise price;
- if applicable, the minimum or maximum number of warrants that may be exercised at any one time;
- information with respect to any book-entry procedures;
- any antidilution provision of the warrants;
- any redemption or call provisions; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Pursuant to the Amended and Restated Loan and Security Agreement, dated September 26, 2014, as amended, among the Company and its U.S.-based operating subsidiaries, including TransEnterix Surgical, and Oxford Finance LLC and Silicon Valley Bank, we issued warrants to purchase an aggregate of 38,324 shares of common stock to the lenders on September 26, 2014 and warrants to purchase an additional 112,903 shares of common stock on August 18, 2015 in connection with an amendment to the Loan Agreement. These warrants were in addition to warrants to purchase an aggregate of 279,588 shares of common stock issued to the lenders under the original loan and security agreement, as amended. Pursuant to a stock purchase agreement dated March 22, 2013 among SafeStitch and the investors executing such agreement, SafeStitch issued warrants to acquire 1,209,600 shares of common stock. As of February 29, 2016, warrants to acquire 1,426,622 shares of our common stock remain outstanding.

DESCRIPTION OF UNITS

We may issue units consisting of one or more of the other securities that may be offered under this prospectus, in any combination. These units may be issuable as, and for a specified period of time may be transferable only as, a single security, rather than as the separate constituent securities comprising such units. The statements made in this section relating to the units are summaries only and are not complete. When we issue units, we will provide the specific terms of the units in a prospectus supplement. To the extent the information contained in the prospectus supplement differs from this summary description, you should rely on the information in the prospectus supplement.

RATIO OF EARNINGS TO FIXED CHARGES

If we offer debt securities and/or shares of preferred stock under this prospectus, then we will, if required at that time, provide a ratio of earnings to fixed charges and/or ratio of combined fixed charges and preference dividends to earnings, respectively, in the applicable prospectus supplement for such offering.

LEGAL MATTERS

Certain legal matters with respect to the securities offered hereby have been passed upon by Ballard Spahr LLP.

EXPERTS

The consolidated financial statements as of December 31, 2015 and 2014 and for each of the three years in the period ended December 31, 2015 and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2015 incorporated by reference in this prospectus have been so incorporated in reliance on the reports of BDO USA, LLP, an independent registered public accounting firm, (the report on the consolidated financial statements contains an explanatory paragraph regarding the Company's ability to continue as a going concern) incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

The carve -out financial statements of ALF-X System (a carve-out of Sofar S.p.A.) as of December 31, 2014 and 2013 and for the two years in the period ended December 31, 2014 incorporated by reference in this prospectus have been so incorporated in reliance on the report of BDO S.p.A., an independent auditor, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting.

INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" in this prospectus the information in other documents that we file with it, which means that we can disclose important information to you by referring you to those documents containing such information. This prospectus is part of a registration statement we filed with the SEC. You should rely on the information incorporated by reference in this prospectus and the registration statement. The information incorporated by reference is considered to be part of this prospectus and information we file later with the SEC will automatically update and supersede this information and information contained in documents filed earlier with the SEC. We incorporate by reference the documents listed below and any future filings made with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of the offering; provided, that we are not incorporating by reference any documents or information deemed to have been furnished and not filed in accordance with SEC rules. The documents we are incorporating by reference are:

- our Annual Report on Form 10-K for the year ended December 31, 2015, filed on March 3, 2016;
- our Current Reports on Form 8-K filed on February 9, 2016 (Items 1.01, 8.01 and 9.01), on February 10, 2016 (Items 8.01 and 9.01) and on February 11, 2016 (Items 8.01 and 9.01), and our Current Report on Form 8-K/A filed on December 4, 2015 (Item 9.01); and
- the description of our common stock contained in the Registration Statement on Form 8-A filed on April 7, 2014 and any amendments to such Registration Statement filed subsequently thereto, including all amendments or reports filed for the purpose of updating such description.

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We will furnish to you, on written or oral request, a copy of any or all of the documents that have been incorporated by reference, including exhibits to these documents. You may request a copy of these filings at no cost by writing or telephoning our Secretary at the following address and telephone number:

TransEnterix, Inc.
Attention: Joshua Weingard, Chief Legal Officer and Secretary
635 Davis Drive, Suite 300
Morrisville, NC 27560
Telephone No.: (919) 765-8400

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-3 under the Securities Act to register our securities being offered in this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all the information set forth in the registration statement or the exhibits and schedules filed thereto. For further information about us and our securities offered by this prospectus, we refer you to the registration statement and the exhibits and schedules filed with the registration statement. Any statement contained in this prospectus regarding the contents of any contract or any other document that is filed as an exhibit to the registration statement is not necessarily complete and each such statement is qualified in all respects by reference to the full text of such contract or other document filed as an exhibit to the registration statement. You may read and copy any materials we file with the SEC, including the registration statement, at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549, on official business days during the hours of 10:00 a.m. to 3:00 p.m. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is <http://www.sec.gov>. You may also inspect our SEC reports and other information at our website at www.transenterix.com. Information on or accessible through our website is not a part of this prospectus. We are subject to the information reporting requirements of the Exchange Act, and file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information are available for inspection and copying at the public reference room and website of the SEC referred to above.



Shares of Common Stock

Series A Warrants to Purchase up to Shares of Common Stock

Series B Warrants to Purchase up to Shares of Common Stock

\$ per Unit

PRELIMINARY PROSPECTUS SUPPLEMENT

April , 2017

Stifel