A copy of this preliminary short form prospectus has been filed with the securities regulatory authorities in the provinces of Ontario, British Columbia and Alberta, but has not yet become final for the purposes of the sale of securities. Information contained in this preliminary short form prospectus may not be complete and may have to be amended. The securities may not be sold until a receipt for the short form prospectus is obtained from the securities regulatory authorities.

This preliminary short form prospectus is a base shelf prospectus. This preliminary short form prospectus has been filed under legislation in the provinces of Ontario, British Columbia and Alberta that permits certain information about these securities to be determined after this prospectus has become final and that permits the omission from this prospectus of that information. The legislation requires the delivery to purchasers of a prospectus supplement containing the omitted information within a specified period of time after agreeing to purchase any of these securities.

No securities regulatory authority has expressed an opinion about these securities and it is an offence to claim otherwise. This preliminary short form prospectus constitutes a public offering of these securities only in those jurisdictions where they may be lawfully offered for sale and therein only by persons permitted to sell such securities.

Information has been incorporated by reference in this short form prospectus from documents filed with the securities commissions or similar authorities in Canada. *Copies of the documents incorporated herein by reference may be obtained on request without charge from the Secretary of Titan Medical Inc. at Suite 1000, 170 University Avenue, Toronto, Ontario, M5H 3B3, Telephone: (416) 548-7522, and are also available electronically at www.sedar.com.*

PRELIMINARY SHORT FORM BASE SHELF PROSPECTUS

New Issue July 23, 2015

TITAN MEDICAL INC.

U.S. $45,000,000

Common Shares
Warrants
Units
Preferred Shares
Debt Securities

This prospectus relates to the offering for sale from time to time, during the 25-month period that this prospectus, including any amendments hereto, remains effective, of the securities listed above in one or more series or issuances, with a total offering price of such securities, in the aggregate, of up to U.S. $45,000,000 million. The securities may be offered separately or together, in amounts, at prices and on terms to be determined based on market conditions at the time of the sale and set forth in an accompanying prospectus supplement.

The common shares ("Common Shares") of Titan Medical Inc. ("Titan" or the "Company" or "we" or "our" or "us") are listed and posted for trading on the Toronto Stock Exchange (the "TSX") under the symbol "TMD" and on the international tier of OTCQX market in the United States under the symbol "TITFX". Unless otherwise specified in an applicable prospectus supplement, the Company's warrants, units, preferred shares and debt securities may not be listed on any securities or stock exchange or on any automated dealer quotation system. **An investment in the securities offered hereunder involves a high degree of risk. The risk factors identified under the heading "Risk Factors" and elsewhere in this prospectus should be carefully reviewed and evaluated by prospective subscribers before purchasing the securities being offered hereunder. See "Risk Factors".**

All information permitted under securities legislation to be omitted from this prospectus will be contained in one or more prospectus supplements that will be delivered to purchasers together with this prospectus, except in cases where an exemption from such delivery requirements has been obtained. Each prospectus supplement will be incorporated by reference into this prospectus for the purposes of securities legislation as of the date of such prospectus supplement and only for the purposes of the distribution of our securities to which such prospectus supplement pertains. You should read this prospectus and any applicable prospectus supplement carefully before

you invest in our securities. The Company's securities may be sold through underwriters or dealers or directly by the Company or through agents designated from time to time at amounts and prices and other terms determined by us. A prospectus supplement will set out the names of any underwriters, dealers or agents involved in the sale of our securities, the amounts, if any, to be purchased by underwriters, the plan of distribution for our securities, including the net proceeds we expect to receive from the sale of our securities, the amounts and prices at which our securities are sold and the compensation of, or discount provided to, such underwriters, dealers or agents.

Owning the Company's securities may subject you to tax consequences in Canada. This prospectus or any applicable prospectus supplement may not describe these tax consequences fully. You should read the tax discussion in any prospectus supplement with respect to a particular offering and consult your own tax advisor with respect to your own particular circumstances.

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NOTICE TO INVESTORS

General Advisory

You should rely only on the information contained or incorporated by reference in this prospectus or any applicable prospectus supplement. The Company has not authorized anyone to provide you with different or additional information. If anyone provides you with different or additional information, you should not rely on it. The Company is not making an offer to sell or seeking an offer to buy these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained in this prospectus or any applicable prospectus supplement is accurate only as of the date on the front of those documents and that information contained in any document incorporated by reference is accurate only as of the date of that document, regardless of the time of delivery of this prospectus or any applicable prospectus supplement or of any sale of the Company's securities. The Company's business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus provides you with a general description of the securities we may offer. The Company will provide updated information if required whenever we offer securities pursuant to this prospectus. This may include a prospectus supplement that will describe the specific amounts, prices and terms of the offered securities. Any such prospectus supplement may also add, update or change the information contained in this prospectus. You should read carefully both this prospectus and any prospectus supplement, together with the additional information described below.

Market and Industry Data

Unless otherwise indicated, information contained in this prospectus concerning our industry and the markets in which we operate or seek to operate, including our general expectations and market position, market opportunities and market share, is based on information from independent industry organizations and consultants, other third-party sources (including industry publications, surveys and forecasts), and management studies and estimates.

Market data and certain industry forecasts used in this prospectus or any applicable prospectus supplement and the documents incorporated by reference in this prospectus or any applicable prospectus supplement were obtained from market research, publicly available information and industry publications. The Company believes that these sources are generally reliable, but the accuracy and completeness of this information is not guaranteed. We have not independently verified this information, and we do not make any representation or warranty as to the accuracy of this information.

While we believe the market position, market opportunity and market share information included in this prospectus is generally reliable, such information is inherently imprecise. In addition, projections, assumptions and estimates of our future performance and the future performance of the industry and markets in which we operate are necessarily subject to a high degree of uncertainty and risk due to a variety of factors, including those described under the heading "Forward-Looking Statements" and "Risk Factors".

Trade-marks, Trade Names and Service Marks

This prospectus includes trade-marks, such as SPORT™ Surgical System, each of which is protected under applicable intellectual property laws and is our property. Solely for convenience, our trade-marks and trade names referred to in this prospectus may appear without the ™ symbol, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights to these trade-marks and trade names. All other trade-marks used in this prospectus are the property of their respective owners.

Presentation of Financial Information and Other Information

We present our financial statements in U.S. dollars. In this prospectus, all references to "U.S. $" are references to U.S. dollars and references to "Cdn $" are to Canadian dollars. Amounts are stated in U.S. dollars unless otherwise indicated.

FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference in this prospectus and any prospectus supplement contain "forward-looking information", within the meaning of applicable Canadian securities laws, concerning anticipated developments and events which the Company has a reasonable basis to believe may occur in the future. These forward-looking statements are made as of the date of this prospectus or, in the case of documents incorporated by reference herein, as of the date of such documents. Forward-looking statements are frequently, but not always, identified by words such as "expects", "expectation", "anticipates", "believes", "intends", "estimates", "predicts", "continues", "potential", "targeted", "plans", "possible" and similar expressions, or statements that events, conditions or results "will", "may", "could", "would" or "should" occur or be achieved. Any forward-looking statements or statements of "belief", including the statements made under "Risk Factors", represent our estimates only as of the date of this prospectus and the documents incorporated by reference herein, respectively, and should not be relied upon as representing our estimates as of any subsequent date. These forward-looking statements may concern anticipated developments in the Company's operations in future periods, the adequacy of the Company's financial resources and other events or conditions that may occur in the future, and include, without limitation, statements regarding:

- the Company's intention with respect to updating any forward-looking statement after the date on which such statement is made or to reflect the occurrence of unanticipated events;
- the Company's expectation with respect to continuing animal feasibility and commencing cadaver studies;
- the Company's expectation with respect to the initiation of human clinical trials and initial regulatory submissions;
- the Company's expectation with respect to launching a commercial product in certain jurisdictions;
- the Company's plans to develop and commercialize the SPORT™ Surgical System and the estimated incremental costs;
- the Company's intentions with respect to initiating marketing activities following receipt of the applicable regulatory approvals;
- the Company's intention to continue to assess specialized skill and knowledge requirements and recruitment of qualified personnel and partners;
- the Company's belief that the materials and parts necessary for the manufacture of a clinical-grade SPORT™ Surgical System will be available in the marketplace;
- the Company's filing of patent applications to expand its patent portfolio as new technologies are refined or developed;
- the Company's seeking of in-licensing opportunities to expand its intellectual property portfolio;
- the Company's intended use of proceeds;
- the Company's intention with respect to not paying any cash dividends on common shares in the foreseeable future;
- the Company's intention to retain future earnings, if any, to finance expansion and growth;
- the Company's plan of distribution;
- the Company's plans with respect to the listing of the Company's securities;
- the potential market for warrants or units; and
- over-allotment options or other transactions which would stabilize or maintain the market price of the Company's securities.

Forward-looking statements are statements about the future and are inherently uncertain, and actual results of the Company or other future events or conditions may differ materially from those reflected in the forward-looking statements due to a variety of risks, uncertainties and other factors, including those referred to in this prospectus, including but not limited to those described in the section titled, "Risk Factors", in any applicable prospectus supplement, in any document incorporated by reference herein, or listed from time to time in our reports, public disclosure documents and other filings with the securities commissions in Canada. These risks include, but are not limited to:

- current global financial conditions;
- dependence on key personnel;

- conflicts of interest;
- additional financing;
- strategic alliances;
- uncertainty as to product development and commercialization milestones;
- results of operations;
- competition;
- rapidly changing markets;
- uncertain market or uncertain acceptance of the Company's technology;
- technological advancements;
- intellectual property protection and infringement;
- ability to license other intellectual property rights;
- insurance and uninsured risks;
- product and services not completely developed;
- government regulation;
- changes in government policy;
- regulatory approval;
- changes in accounting and tax rules;
- contingent liabilities;
- manufacturing risks;
- product defect risk;
- profitability;
- supplier risk;
- history of losses;
- stock price volatility;
- future share sales;
- limited operating history;
- fluctuating financial results; and
- currency fluctuations.

Forward-looking statements are based on a number of assumptions which may prove to be incorrect, including but not limited to assumptions about:

- general business and current global economic conditions;
- future success of current research and development activities;
- achieving development and commercial milestones;
- market competition;
- changes to tax rates and benefits;
- the availability of financing;
- the Company's and competitors' costs of production and operations;
- the Company's ability to attract and retain skilled employees;
- the Company's ongoing relations with its third-party service providers;
- the design of the SPORT™ Surgical System and related platforms and equipment;
- the progress and timing of the development of the SPORT™ Surgical System;
- costs related to the development, completion and potential commercialization of the SPORT™ Surgical System;
- receipt of all applicable regulatory approvals;
- estimates and projections regarding the robotic surgery equipment industry;
- protection over the Company's intellectual property rights;
- market acceptance of the Company's systems under development; and
- the type of specialized skill and knowledge required to develop the SPORT™ Surgical System and the Company's access to such specialized skill and knowledge.

We caution that the foregoing list of important factors and assumptions is not exhaustive. Although the Company has attempted to identify on a reasonable basis important factors and assumptions related to forward-looking statements, there can be no assurance that forward-looking statements will prove to be accurate, as events or circumstances or other factors could cause actual results to differ materially from those estimated or projected and expressed in, or implied by, these forward-looking statements. Other than as specifically required by law, the Company undertakes no obligation to update any forward-looking statement to reflect events or circumstances after the date on which such statement is made, or to reflect the occurrence of unanticipated events, whether as a result of new information, future events or results or otherwise. Accordingly, readers should not place undue reliance on forward-looking statements.

THE COMPANY

The Company was formed by way of amalgamation under the *Business Corporations Act* (Ontario) on July 28, 2008. Titan does not have any subsidiaries. The head and registered office of the Company is located at Suite 1000, 170 University Avenue, Toronto, Ontario, M5H 3B3. The Company's main telephone number is (416) 548-7522.

BUSINESS OF THE COMPANY

Product Development

The Company's business is focused on robotic surgical technologies for application in minimally invasive surgery ("MIS") and is transitioning from research and development to a commercialization phase. The Company is currently developing the SPORT™ (Single Port Orifice Robotic Technology) Surgical System, a single-port/single-incision robotic surgical system. The SPORT™ Surgical System comprises a surgeon-controlled robotic platform that includes a 3D high definition vision system and multi-articulating instruments for performing MIS procedures, and a surgeon workstation that provides the surgeon with an interface to the robotic platform and also provides a 3D endoscopic view of inside a patient's body during MIS procedures. Development of the SPORT™ Surgical System has proceeded in response to "voice of customer" feedback and consultation with medical technology development firms engaged by the Company and the Company's Surgeon Advisory Board (the "Surgeon Advisory Board") comprised of industry-leading surgeons. The Company aims to pursue a broad set of surgical indicators for the SPORT™ Surgical System, including general abdominal, gynecologic and urologic procedures.

The Company has completed research and early development of the major components of the SPORT™ Surgical System including multi-articulating instruments with multiple degrees of freedom of movement, a custom designed 3D high definition vision system capable of motorized pan and tilt, one-to-one movements and surgeon controls that allow the user to control the instruments through movements of the surgeon controllers.

In addition to development of robotic surgical technologies, the Company continues to explore in-licensing opportunities for technologies that may be used in conjunction with the Company's surgical system under development. In 2012, the Company entered into an exclusive license agreement with Columbia University for a robotic surgical technology for use in single-port surgery. The Company has exclusive license rights for the development and commercialization of the licensed technology. This technology has formed the basis of the SPORT™ Surgical System.

The SPORT™ Surgical System is being developed with the goal of inserting the interactive multi-articulating instruments and the 3D high definition vision system into the patient's body cavity through a single incision. The design is comprised of a collapsible device that, when collapsed, is capable of being inserted into the patient's body cavity through a skin incision of approximately 25mm. Once inserted, the device is configured to deploy into a working configuration wherein the 3D high definition vision system and interactive multi-articulating instruments can be controlled by a surgeon at the workstation.

The Company continuously evaluates its technologies under development for intellectual property protection through a combination of trade secrets and patent application filings. As of June 30, 2015, the Company had ownership of nine U.S. patents and fifteen patent applications filed in various jurisdictions. Additionally, the Company holds exclusive rights to one patent and four patent applications presently pending before patent offices in

the U.S., Canada or Europe. The Company anticipates expanding its patent portfolio by filing patent applications as it progresses in the development of robotic surgical technologies and by licensing suitable technologies.

As part of its development and commercialization efforts, the Company has established certain milestones that it uses to assess its progress towards developing commercially viable robotic surgical technologies. These milestones relate to technology and design advancements as well as to dates for clinical testing and completing regulatory submissions. To assess progress, the Company regularly tests and evaluates its technology. If such evaluations indicate technical defects or failure to meet cost or performance goals, the Company's commercialization schedule could be delayed and potential purchasers of its initial commercial systems may decline to purchase them or choose to purchase alternative technologies.

Among other things, the future success of the Company is substantially dependent on continuing its research and development program. In addition to being capital intensive, research and development activities relating to sophisticated technologies that the Company develops are inherently uncertain as to future success and the achievement of desired results. If delays or problems occur during the Company's ongoing research and development activities, important financial and human resources may need to be diverted toward resolving such delays or problems. Further, there is material risk that the Company's research and development activities may not result in a functional, commercially viable product or one that is approved by regulatory authorities.

Development Objectives

The Company uses a combination of internal resources and external development firms to execute the research and development and commercialization plan for the Company's robotic surgical system.

The Company's current plan is to focus on the development and commercialization of the SPORT™ Surgical System at estimated costs, and according to the timeline, as set forth in the table below. As of June 30, 2015, the Company has completed its alpha commercial prototype as well as tissue testing using components of the SPORT™ Surgical System and design and testing of the feasibility prototype.

Based on "voice of customer" feedback and consultations with the medical technology development firms engaged by the Company and the Surgeon Advisory Board, the Company has decided to build additional prototypes and develop more advanced instruments and training systems for expanded use for additional surgical procedures. The Company is pursuing a broad set of surgical indications including general abdominal, gynecologic and urologic procedures for the SPORT™ Surgical System. The Company anticipates costs related to the commercialization and regulatory approval of SPORT™ to be as set out in the table below. Certain estimated costs set out in the table below are greater than those set out in the comparable table in the Company's Annual Information Form in respect of the fiscal year ended December 31, 2014. Such additional costs relate primarily to the production of 11 engineering, first in human and clinical trial units to be used for regulatory approval and marketing purposes.

At the date of this prospectus, the Company is on track to achieve the milestones within published timelines in the Annual Information Form in respect of the fiscal year ended December 31, 2014, and consistent with those set forth below.

Development Milestone	***Estimated Cost (in U.S. $)***	***Schedule for Milestone Completion***	***Comments***
Alpha commercial prototype design complete (Design of prototype suitable for ongoing tissue testing)	-	Q1 2014	*Completed*
Alpha commercial prototype built	-	Q2 2014	*Completed*

Development Milestone	*Estimated Cost (in U.S. $)*	*Schedule for Milestone Completion*	*Comments*
Tissue testing (Testing performance of individual features and functionality)	-	Q2 2014	*Completed*
Design and test of feasibility prototype complete (Demonstrate feasibility for next generation console and advanced instruments)		Q1 2015	*Completed*
Units built and ready for engineering verification (Prototype is formally tested to meet previously defined specifications)	$23 million	Q4 2015 *Expected*	Build 2 engineering verification units plus 5 first in human units
Early human feasibility report complete (Human clinical cases utilizing units are tested under engineering verification)	$24 million (2 milestones)	Q2 2016 *Expected*	First in human studies confirm capabilities of SPORT™ Surgical System for expanded use. Build 4 additional Human clinical trial units.
Audit for CE Mark approval commenced		Q2 2016 *Expected*	
Pivotal Human clinical trial commenced	$5 million	Q3 2016 *Expected*	
Pivotal Human clinical trial completed and 510(k) application submitted to FDA	$5 million (3 milestones)	Q4 2016 *Expected*	
Outside U.S. commercial launch (Pending CE Mark approval)		Q4 2016 *Expected*	
U.S. commercial launch (Pending 510(k) market clearance)		Mid-2017 *Expected*	
TOTAL	**U.S. $57 million**		

Upon completion of the development of the SPORT™ Surgical System and following receipt of all applicable regulatory approvals in the United States, Europe, and/or Asia, the Company intends to utilize a direct sales force and/or distribution partner(s) to initiate marketing the SPORT™ Surgical System to hospitals.

Due to the nature of technology research and development, there is no assurance that these objectives will be achieved, and there can be no assurance with respect to the time or resources that may be required. The Company expects that additional specific milestones could be identified as the development and commercialization of its SPORT™ Surgical System progresses. The total costs to complete the development and commercialization of the Company's SPORT™ Surgical System as referenced above are only an estimate based on current information available to the Company and cannot yet be determined with a high degree of certainty, and the costs may be substantially higher than estimated.

Market Opportunity

The Company is focused on the design, development and commercialization of a surgical robot for use during MIS. The SPORT™ Surgical System is a surgeon-controlled robotic platform that includes a 3D high definition vision system and multi-articulating instruments for performing MIS procedures. The surgeon workstation provides the surgeon with an interface to the robotic platform for controlling the instruments inside a patient's body. The Company intends for the SPORT™ Surgical System to be used in both simple and complex areas of general abdominal, gynecologic, and urologic indications.

Robotic Surgery

Today's medical surgery industry is built on a combination of mature and evolving surgical techniques that use evolving technology to perform surgery. Currently, the main form of surgery is open surgery. Although performed on a daily basis, open surgery requires large incisions, posing several problems to both the patient and hospital. The increased trauma to the patient causes both recovery times and hospitalization to be longer and more expensive. Also, larger incisions cause more pain and scarring than minimally invasive surgical techniques. MIS has been evolving over the past 25 years and reduces trauma to the patient thus resulting in fewer complications, reduced hospital stays and shorter patient recovery times. Techniques used in MIS are performed through small ports rather than large incisions that are required in open surgery. However, the acceptance of MIS has not increased in more complex surgery.

The shortcomings of both open surgery and MIS have led to the introduction of robots within the surgical industry. Robotic surgical technologies represent the next generation in the evolution of surgical procedure. The objectives of robotic platforms are to provide surgeons with tools to allow complex procedures to be performed repeatedly with greater precision, while offering improved vision and control. The use of robots is intended to empower surgeons to employ improved techniques and assist in reducing the risks associated with complex surgeries.

Market Acceptance

To date, robotic surgical technologies have been employed in urology, gynecology, colon and rectal surgery, cardiothoracic surgery, general surgery, head and neck surgery, orthopedic surgery, neurosurgery, and catheter-based interventional cardiology and radiology.

The success of robotic technologies in these applications has led to the growing adoption and commercialization of these technologies in the medical industry. Although robotic surgical procedures have been gaining substantial acceptance, the industry is still in its infancy. The technology available is becoming more sophisticated in order to overcome technical hurdles that are currently encountered. The end objective is to overcome the limitations of fixed port access, limited dexterity and visualization.

Competitive Conditions

The industry leader within the robotic surgical market is Intuitive Surgical, Inc. (NASDAQ: ISRG), maker of the da Vinci® Surgical System. In addition, there are a number of companies reported to be currently using or planning to use robots and computers in surgery, including, among others, Ethicon (a Johnson & Johnson subsidiary) in partnership with Google, SOFAR S.p.A., Eterne, Medrobotics, Applied Dexterity, DLR Mirosurge, Transenterix and Meere Company Inc. Any company with substantial experience in industrial robotics could potentially expand into the field of surgical robotics and become a potential competitor.

Regulation

United States Regulatory Process

In the United States, the Company's surgical system will be subject to regulation by the United States Food and Drug Administration ("FDA"). Management expects that under the FDA guidelines, the surgical system will be classified as a Class II medical device. Class II devices are those which are subject to the general controls and require premarket demonstration of adherence to certain performance standards or other special controls, as specified by the FDA, and clearance by the FDA. Premarket review and clearance by the FDA for these devices is accomplished through the 510(k) premarket notification process. For most Class II devices, the manufacturer must submit to the FDA a premarket notification submission, demonstrating that the device is "substantially equivalent" in intended use and technology to a "predicate device" that is either: (i) a device that has grandfather marketing status because it was legally marketed prior to May 28, 1976, the date upon which the Medical Device Amendments of 1976 were enacted, or (ii) a Class I or II device that has been cleared through the 510(k) process.

The FDA may require further information, including clinical data, to make a determination regarding substantial equivalence. If the FDA determines that the device, or its intended use, is not "substantially equivalent" (as such term is defined by the FDA), the FDA will place the device, or the particular use of the device, into Class III, and the device sponsor must then fulfill much more rigorous pre-marketing requirements.

After a device receives 510(k) clearance, any modification that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, requires a new 510(k) clearance or could require a pre-market approval application. The FDA requires each manufacturer to make this determination in the first instance, but the FDA can review any such decision. If the FDA disagrees with a manufacturer's decision not to seek a new 510(k) clearance, the agency may retroactively require the manufacturer to seek 510(k) clearance or pre-market approval. The FDA may also require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or pre-market approval is obtained.

European Union and Canada Regulatory Process

Medical devices in the European Union ("EU") are regulated under EU Council Directive 93/42/EEC as amended by 2007/47/EC, also referred to as Medical Device Directive or MDD, and must bear the CE Mark prior to being placed on the market. In order to affix the CE Marking on products, a recognized European Notified Body must certify a manufacturer's quality system for compliance with international and European requirements. Any modifications of existing products or development of new products in the future will require permission to affix the CE Marking to such products.

In order to commercialize products in Canada, regulatory approval from Health Canada (Therapeutic Products Directorate, Medical Devices Bureau) is required. Medical device license applications must include a valid ISO 13485:2003 certificate issued by a registrar recognized by Health Canada on the performance of quality management system audits of medical device manufacturers under the Canadian Medical Devices Conformity Assessment System (CMDCAS). Evaluation of safety and effectiveness is conducted by Health Canada on medical device applications submitted for Class II, III and IV devices, and if determined to be safe and effective, a medical device license for that device Class will be issued by Health Canada to the manufacturer.

Specialized Skill and Knowledge

The research and development and commercialization of the Company's surgical system requires specialized skill and knowledge. We believe the required skill and knowledge to carry out these current stages are available to the Company, through its current officers, employees and external medical technology development firms. The Company will continue to assess its requirements and recruit and engage required qualified personnel and development firms as needed subject to budget limitations. If the transition from research and development stage to commercialization is successfully completed and the clinical grade SPORT^{TM} Surgical System is developed, it is believed that the materials and parts necessary for the manufacture of the product will be available in the marketplace. The Company is currently working with established manufacturers in the medical device industry.

However, there is no assurance in this regard as the transition from research and development to commercialization may reveal requirements in the future for new materials and parts that have not been identified to date.

Intellectual Property Protection

As of June 30, 2015, the Company had ownership of nine U.S. patents and fifteen patent applications filed in various jurisdictions. Additionally, the Company holds exclusive rights to one patent and four patent applications presently pending before patent offices in the U.S., Canada or Europe. The Company anticipates expanding its patent portfolio by filing patent applications as it progresses in the development of robotic surgical technologies and by licensing suitable technologies. However, there can be no assurance that patent applications will be granted or that our intellectual property rights will not be challenged by third parties. See "Risk Factors".

Operations

The Company develops its core technologies through a combination of in-house personnel and selected engineering and external medical technology development firms. Certain components of the Company's robotic surgical system are being developed to the Company's specifications by various third party suppliers and medical technology development firms through purchase orders and the Company does not have long-term contracts with any third parties.

The Company maintains its head office at subleased premises in Toronto, Ontario.

Employees

As of June 30, 2015, the Company had a total of 10 employees.

USE OF PROCEEDS

Unless otherwise indicated in a prospectus supplement, the Company currently intends to use the net proceeds from the sale of the securities for the manufacture of 11 clinical-grade prototypes of its SPORT^{TM} Surgical System, pre-clinical trial and regulatory costs, and for working capital and other general corporate purposes.

Additional funding will be required for the development and commercialization of the SPORT^{TM} Surgical System, currently estimated at approximately U.S. $57 million. At June 30, 2015, the Company had approximately U.S. $20 million in cash and cash equivalents and working capital of approximately U.S. $15.2 million. The Company expects that approximately U.S. $37 million in incremental funding will be required by the end of 2016 to maintain it's currently anticipated pace of development. If additional funding is not available, the pace of the Company's development plan may be reduced. See "Risk Factors".

More detailed information regarding the use of proceeds from the sale of securities will be described in the applicable prospectus supplement. Pending the application of the net proceeds, the Company intends to invest substantially all of the net proceeds in term deposits and high interest savings accounts with a major Canadian chartered bank, or in investment-grade, interest-bearing securities, the primary objectives of which are liquidity and capital preservation.

PLAN OF DISTRIBUTION

New Issue

We may sell our securities to or through underwriters, dealers, placement agents or other intermediaries and we may also sell our securities directly to purchasers or through agents in negotiated transactions, block trades or a combination of these methods, subject to obtaining any applicable exemption from registration requirements.

We may distribute our securities, from time to time, in one or more transactions at a fixed price or prices that may be changed or at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at

negotiated prices, including sales in transactions that are deemed to be "at-the-market distributions" as defined in National Instrument 44-102 *Shelf Distributions*, including sales made directly on the TSX or other existing trading markets for our securities. The prices at which our securities may be offered may vary as between purchasers and during the period of distribution.

The prospectus supplement relating to each offering of securities will identify each underwriter, dealer or agent, as the case may be, and will also set forth the terms of the offering, including the type of security being offered, the public offering price (or the manner of determination thereof if offered on a non-fixed price basis), the net proceeds to us and any compensation payable to the underwriter, dealers or agents.

MARKET FOR SECURITIES

The Common Shares have been listed for trading in Canada on the TSX under the symbol "TMD" since September 30, 2014, and prior to that, they were listed on the TSX Venture Exchange ("TSX-V"). The Common Shares are also traded on the international tier of the OTCQX market in the United States under the symbol "TITXF". Information regarding trading prices, volume and prior sales of the Company's securities will be included in a prospectus supplement to be filed in connection with each offering of securities of the Company qualified thereunder.

DIVIDEND POLICY

The Company has never declared or paid cash dividends on the Common Shares and does not anticipate paying any cash dividends on the Common Shares in the foreseeable future. The Company presently intends to retain future earnings, if any, to finance the expansion and growth of its business. Any future determination to pay dividends will be at the discretion of the Company's board of directors and will depend on the Company's financial condition, results of operations, capital requirements and other factors the Company's board of directors deems relevant. In addition, statutory solvency tests or the terms of any future debt or credit facility may preclude the Company from paying dividends.

CAPITALIZATION

Since March 31, 2015, being the date of the Company's most recently filed unaudited condensed interim financial statements, there have been no material changes in the Company's share and loan capitalization.

DESCRIPTION OF SHARE CAPITAL

The authorized capital of the Company consists of an unlimited number of Common Shares. As at July 22, 2015, there were 102,707,613 Common Shares issued and outstanding. The following is a brief description of the Common Shares.

Common Shares

The holders of Common Shares are entitled to receive notice of and to attend all annual and special meetings of the Company's shareholders and to one vote in respect of each Common Share held at the record date for each such meeting. The holders of Common Shares are entitled, at the discretion of the Company's board of directors, to receive out of any or all of the Company's profits or surplus properly available for the payment of dividends, any dividend declared by the Company's board of directors and payable by the Company on the Common Shares. The holders of the Common Shares will participate rateably in any distribution of the assets of the Company upon liquidation, dissolution or winding-up or other distribution of the assets of the Company. Such participation will be subject to the rights, privileges, restrictions and conditions attached to any of the Company's securities issued and outstanding at such time ranking in priority to the Common Shares upon the liquidation, dissolution or winding-up of the Company. Common Shares are issued only as fully paid and are non-assessable.

DESCRIPTION OF WARRANTS

This section describes the general terms that will apply to any warrants for the purchase of Common Shares. The Company will not offer warrants for sale unless the applicable prospectus supplement containing the specific terms of the warrants to be offered separately is first approved for filing by the securities commissions or similar regulatory authorities in each of the jurisdictions where the warrants will be offered for sale or unless the offering is in connection with and forms part of the consideration for an acquisition or merger transaction.

Subject to the foregoing, the Company may issue warrants independently or together with other securities, and warrants sold with other securities may be attached to or separate from the other securities. Warrants will be issued under one or more warrant indentures or warrant agency agreements to be entered into by the Company and one or more banks or trust companies acting as warrant agent.

This summary of some of the provisions of the warrants is not complete. The statements made in this prospectus relating to any warrant agreement and warrants to be issued under this prospectus are summaries of certain anticipated provisions thereof and do not purport to be complete and are subject to, and are qualified in their entirety by reference to, all provisions of the applicable warrant agreement. You should refer to the warrant indenture or warrant agency agreement relating to the specific warrants being offered for the complete terms of the warrants. A copy of any warrant indenture or warrant agency agreement relating to an offering or warrants will be filed by the Company with the securities regulatory authorities in Canada following its execution. The particular terms of each issue of purchase warrants will be described in the applicable prospectus supplement. This description will include, where applicable:

- the designation and aggregate number of warrants;
- the currency and price at which the warrants will be offered;
- the currency or currencies in which the warrants will be offered;
- the date on which the right to exercise the warrants will commence and the date on which the right will expire;
- the number of Common Shares that may be purchased upon exercise of each warrant and the price at which and currency or currencies in which the Common Shares may be purchased upon exercise of each warrant;
- the designation and terms of any securities with which the warrants will be offered, if any, and the number of the warrants that will be offered with each security;
- the date or dates, if any, on or after which the warrants and the related securities will be transferable separately;
- whether the warrants will be subject to redemption and, if so, the terms of such redemption provisions;
- material United States and Canadian federal income tax consequences of owning and disposing of the warrants; and
- any other material terms or conditions of the warrants.

DESCRIPTION OF UNITS

The Company may issue units comprising one or more of the other securities described in this prospectus in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The applicable prospectus supplement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. The particular terms

and provisions of units offered by any prospectus supplement will be described in the prospectus supplement filed in respect of the offering of such units.

DESCRIPTION OF PREFERRED SHARES

The articles of the Company do not currently provide for the issuance of preferred shares. Any issuance of preferred shares will be subject to the amendment of the Company's articles to create such securities. The terms of any preferred shares offered under this prospectus and any related agreements will be described in the prospectus supplement filed in respect of the issuance of such preferred shares.

DESCRIPTION OF DEBT SECURITIES

From time to time, debt securities may be offered and sold under this prospectus. The terms of any debt securities and any related agreements or indentures will be described in a prospectus supplement to be filed in respect of such offering.

RISK FACTORS

Investing in the Company's securities involves a high degree of risk. Before making an investment decision with respect to any of the Company's securities, potential investors should carefully consider the risk factors set out in the Company's annual information form for the year ended December 31, 2014 and the other information included or incorporated by reference into this prospectus, as well as the Company's historical financial statements and related notes.

CERTAIN INCOME TAX CONSIDERATIONS

The applicable prospectus supplement may describe certain Canadian federal income tax consequences to a purchaser who is a non-resident of Canada or to a purchaser who is a resident of Canada of acquiring, owning and disposing of any of our securities offered thereunder.

TRANSFER AGENT AND REGISTRAR

The transfer agent and registrar for the Common Shares is Computershare Trust Company of Canada, at its principal office in Toronto, Ontario, Canada.

AUDITORS

The Company's financial statements as at, and for the fiscal years ended, December 31, 2014 and 2013, incorporated by reference in this prospectus have been audited by BDO Canada LLP, independent auditors, as set forth in their report incorporated by reference in this prospectus, and are incorporated by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

LEGAL MATTERS

Legal matters relating to this prospectus are being passed upon for us by Borden Ladner Gervais LLP.

As of July 22, 2015, the partners and associates of Borden Ladner Gervais LLP beneficially owned, directly or indirectly, less than 1% of our issued and outstanding securities.

DOCUMENTS INCORPORATED BY REFERENCE

Information has been incorporated by reference in this prospectus from documents filed with securities commissions or similar regulatory authorities in Canada. Copies of the documents incorporated by reference herein may be obtained on request without charge from the Chief Financial Officer of the Company at Suite 1000, 170 University Avenue, Toronto, Ontario, M5H 3B3, Telephone: (416) 548-7522. These documents are also available through the

internet under the Company's profile on the System for Electronic Document Analysis and Retrieval which can be accessed at www.sedar.com. The following documents, filed with the various securities commissions or similar authorities in each of the provinces of British Columbia, Alberta and Ontario, are specifically incorporated by reference into and form an integral part of this short form prospectus:

1. the annual information form dated March 31, 2015 for the year ended December 31, 2014;

2. the audited financial statements as at, and for the financial years ended, December 31, 2014 and 2013, together with the notes thereto and together with the Independent Auditor's Report thereon;

3. management's discussion and analysis of financial condition and results of operations for the financial year ended December 31, 2014;

4. the unaudited condensed interim financial statements as at, and for the three months ended, March 31, 2015, consisting of the condensed interim balance sheet of the Company as at March 31, 2015 and the condensed interim statement of shareholders' equity (and deficit), net and comprehensive loss and cash flows for the three months ended March 31, 2015 and 2014, together with the notes thereto;

5. management's discussion and analysis of financial condition and results of operations for the three months ended March 31, 2015; and

6. the management information circular dated May 8, 2015 relating to Titan's annual and special meeting of shareholders held on June 9, 2015.

Material change reports (other than confidential reports), business acquisition reports, interim financial statements and all other documents of the type required by National Instrument 44-101 – *Short Form Prospectus Distributions* to be incorporated by reference in a short form prospectus, filed by the Company with a securities commission or similar regulatory authority in Canada after the date of this short form prospectus and before completion or withdrawal of this offering, will be deemed to be incorporated by reference into this prospectus.

A prospectus supplement containing the specific terms of any offering of the Company's securities will be delivered to purchasers of such securities together with this prospectus and will be deemed to be incorporated by reference in this prospectus as of the date of the prospectus supplement and only for the purposes of the offering of the Company's securities to which that prospectus supplement pertains, except in cases where an exemption from such delivery requirements has been obtained.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus shall be deemed to be modified or superseded for the purposes of this prospectus to the extent that a statement contained in this prospectus or in any subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. The modifying or superseding statement need not state that it has modified or superseded a prior statement or include any other information set forth in the document that it modifies or supersedes. The making of a modifying or superseding statement shall not be deemed an admission for any purpose that the modified or superseded statement, when made, constituted a misrepresentation, an untrue statement of a material fact or an omission to state a material fact that is required to be stated or that is necessary to make a statement not misleading in light of the circumstances in which it was made. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

Upon a new annual information form and the related annual financial statements being filed by the Company with, and, where required, accepted by, the applicable securities regulatory authorities during the currency of this prospectus, the previous annual information form, the previous annual financial statements and all interim financial statements, material change reports and information circulars filed prior to the commencement of the financial year in which the new annual information form is filed will be deemed no longer to be incorporated into this prospectus for purposes of future offers and sales of securities under this prospectus. Upon interim financial statements and the accompanying management's discussion and analysis being filed by the Company with the applicable securities

regulatory authorities during the duration of this prospectus, all interim financial statements and the accompanying management's discussion and analysis filed prior to the new interim financial statements shall be deemed no longer to be incorporated into this prospectus for purposes of future offers and sales of securities under this prospectus.

PURCHASER'S STATUTORY RIGHTS

Securities legislation in certain of the provinces of Canada provides purchasers with the right to withdraw from an agreement to purchase securities. This right may be exercised within two business days after receipt or deemed receipt of a prospectus and any amendment. In several of the provinces, the securities legislation further provides a purchaser with remedies for rescission or, in some jurisdictions, revisions of the price or damages, if the prospectus and any amendment contains a misrepresentation or is not delivered to the purchaser, provided that the remedies for rescission, revisions of the price or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province for the particulars of these rights or consult with a legal adviser.

CERTIFICATE OF TITAN MEDICAL INC.

Dated: July 23, 2015

This short form prospectus, together with the documents incorporated in this prospectus by reference, constitutes full, true and plain disclosure of all material facts relating to the securities offered by this prospectus as required by the securities legislation of British Columbia, Alberta and Ontario.

(*signed*) John Hargrove
Chief Executive Officer
Titan Medical Inc.

(*signed*) Stephen Randall
Chief Financial Officer
Titan Medical Inc.

On behalf of the Board of Directors of Titan Medical Inc.

(*signed*) Reiza Rayman
Director

(*signed*) Martin Bernholtz
Director