

# **TITAN MEDICAL INC.**

## **AMENDED AND RESTATED MANAGEMENT'S DISCUSSION AND ANALYSIS**

**FOR THE YEAR ENDED DECEMBER 31, 2015**

**(IN UNITED STATES DOLLARS)**

This Amended and Restated Management's Discussion and Analysis ("MD&A") is dated March 30, 2016, and replaces the Management's Discussion and Analysis dated March 30, 2016 of Titan Medical Inc. ("Titan" or the "Company"), as filed under the Company's profile at [www.sedar.com](http://www.sedar.com) earlier on March 30, 2016.

This MD&A provides a review of the performance of Titan Medical Inc. ("Titan" or the "Company") and should be read in conjunction with its audited financial statements for the year ended December 31, 2015 (and the notes thereto) ("Financial Statements"). The Financial Statements have been prepared in accordance with International Financial Reporting Standards ("IFRS").

Effective January 1, 2014, the Company changed its functional and presentation currency from the Canadian dollar to the U.S. dollar, applied on a prospective basis in accordance with IAS 21. This change reflects the continuing increase in the Company's costs being incurred in U.S. dollars, a trend which is expected to continue in the foreseeable future.

Additional information in respect of the Company, including the Company's most recent annual information form, can be found under the Company's profile at [www.sedar.com](http://www.sedar.com).

### ***Internal Control over Financial Reporting***

During the year ended December 31, 2015, no changes were made to the Company's internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

### ***Forward-Looking Statements***

This discussion includes certain statements that may be deemed "forward-looking statements". All statements in this discussion other than statements of historical facts that address future events, developments or transactions that the Company expects, are forward-looking statements. These forward-looking statements are made as of the date of this MD&A. Forward-looking statements are frequently, but not always, identified by words such as "expects", "expected", "expectation", "anticipates", "believes", "intends", "estimates", "predicts", "potential", "targeted", "plans", "possible", "milestones", "objectives" and similar expressions, or statements that events, conditions or results "will", "may", "could", or "should" occur or be achieved. Forward-looking statements that appear in this MD&A include: the Company is committed to developing its robotic surgical system with the objective of substantially improving upon minimally invasive surgery; the Company aims to pursue a broad set of surgical indications for the SPORT™ Surgical System, including general abdominal, gynecologic and urologic procedures; 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 Company continues to explore in-licensing opportunities for technologies that may be used in conjunction with the Company's robotic

surgical system; 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; the Company's current plan is to focus on the development and commercialization of the SPORT™ Surgical System at estimated incremental costs and according to the timeline as set forth in the table below; over the course of the next twelve months, Titan's objectives include continuing to significantly advance the development of its robotic surgical system including the build of extended engineering verification units (EEV) to be used for a number of planned optimization trials and cadaver studies; commencement of audit for CE Mark approval and pivotal human clinical trial; completion of pivotal human clinical trial and submission of 510(k) application to FDA; outside U.S. commercial launch; U.S. commercial launch; the Company intends to utilize a direct sales force and/or distribution partner(s) to initiate marketing the SPORT™ Surgical System to hospitals; the Company has not deviated from its plan to use the Net Proceeds towards the ongoing development and commercialization of its SPORT™ Surgical System and general working capital purposes; Titan will continue its pursuit of key strategic relationships, carrying on efforts to secure its intellectual property through the patent and licensing process; the optimization trials will result in the generation of more and better information, sooner because we have many more surgeons doing operations in cadavers; Longtai Medical Inc. will concurrently with the signing of the Distributorship Agreement (as defined herein), subscribe for and purchase an additional US\$4,000,000 worth of common shares at a share issue price equal to the 5-day VWAP (less a 12.5% discount); if the Distributorship Agreement is signed and the second US\$4,000,000 private placement is completed, Titan will retain US\$1,400,000 of the Distributorship Deposit (as defined herein) and repay US\$600,000 to Longtai.

Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results or developments may differ materially from those in the forward-looking statements. 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, such as current global financial conditions, dependence on key personnel, conflicts of interest, obtaining of or cost of additional financing, strategic alliances, uncertainty as to product development and commercialization milestones, results of operations, competition, technological advancements, rapidly changing markets, uncertain market, uncertain acceptance of the Company's technology or intellectual property, infringement of intellectual property rights, scope and cost of insurance and uninsured risks, risks associated with the Company entering into additional long-term contractual arrangements, ability to license other intellectual property rights, government regulation, changes in government policy, changes in accounting and tax rules, regulatory inquiries, requirements and approvals, contingent liabilities, manufacturing and product defects, history of losses, stock price volatility, future share sales, limited operating history, fluctuating financial results and currency fluctuations. Please also refer to the risk factors set forth starting on page 9 of the Company's Annual Information Form for the 2015 fiscal year, available on SEDAR at [www.sedar.com](http://www.sedar.com), which are expressly incorporated by reference into the MD&A.

There may be other factors that cause actions, events or results not to be as anticipated, estimated or intended. 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. Investors are cautioned that any such

statements are not guarantees of future performance and that actual results or developments may differ materially from those projected in the forward-looking statements. Accordingly, investors should not place undue reliance on forward-looking statements.

### ***History and Business***

The Company is and since July 28, 2008, has been incorporated under the *Business Corporations Act* (Ontario).

The address of the Company's corporate office and its principal place of business is 170 University Avenue, Suite 1000, Toronto, Canada M5H 3B3.

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 Company is committed to developing its robotic surgical system for use in connection with minimally invasive surgery (surgery without large incisions) ("MIS"). From inception, the Company has focused on research and development toward its robotic surgical technology and building its intellectual property portfolio, trade secrets and scientific and technical knowledge base.

### ***Overall Performance***

The Company's business is focused on computer-assisted robotic surgical technologies for application in 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 to provide tele-operation (remote surgery) capabilities. The SPORT™ Surgical System comprises a surgeon-controlled robotic platform (patient cart) 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 advanced ergonomic 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. This has allowed the Company to develop a robotic surgical system that will not only include the traditional advantages of robotic surgery, including tele-operation, 3D stereoscopic imaging and restoration of instinctive control, but also new and enhanced features including an advanced surgeon workstation incorporating a 3D high definition display that provides a more ergonomic-friendly user interface and a robotic platform with improved instrument dexterity. The advanced ergonomic design of the workstation also includes two custom designed master controllers, a second display for delivering ancillary information to the surgeon and elbow supports instead of forearm supports to provide an overall more comfortable working position. Overall, the design of the surgical system is intended to allow for the system to adapt to the surgeon instead of having the surgeon adapt to the system. The SPORT™ Surgical System is also being developed to allow for data collection and analytics that could be utilized by the surgeon and/or operation room teams. The Company aims to pursue a broad set of surgical indications 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 The Trustees of 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 robotic platform is being developed with the goal of providing the interactive multi-articulating instruments and the 3D high definition vision system for insertion into a patient's body cavity through a single incision. The design of the robotic platform includes an insertion tube of approximately 19mm in diameter that is capable of being inserted into the patient's body cavity through a skin incision of approximately 25mm. The insertion tube includes a collapsible portion incorporating the 3D high definition vision system inside a camera module equipped with a digital zoom at a distal end that once inserted, 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 multi-articulating, snake-like instruments are designed to couple with removable and sterile single patient use robotic tools that would provide first use quality in every case and eliminate the reprocessing of the instrument. The use of reusable (re-usable for a specific number of uses) robotic instruments and single patient use tools allows more use cases for each robotic instrument thus reducing the per case cost. The robotic platform is also designed to include a mast, a boom and wheels for optimal configurability for a variety of surgical indications and the ability to be maneuvered around the operating room and surgical centers where applicable.

As part of the development of the SPORT™ Surgical System, the Company is also developing a robust training curriculum and post-training assessment for surgeons and surgical teams. The training curriculum includes cognitive pre-training, psychomotor skills training, team training, troubleshooting and an overview of safety. Post-training assessment includes the design of assessment tools and validating the assessment tools. The Company previously announced that it has signed an agreement with the James and Sylvia Earl, Simulation to Advance Innovation and Learning (SAIL) Center at Anne Arundel Medical Center (AAMC) in Annapolis, MD, for the development of the training curriculum and post-training assessment.

The Company continuously evaluates its technologies under development for intellectual property protection through a combination of trade secrets and patent application filings. As of December 31, 2015, the Company had ownership or exclusive rights to eleven patents and twenty-six patent applications filed with various patent offices. 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 may choose to purchase alternative technologies.

Among other things, the future success of the Company is substantially dependent on its continued research and development program including the ongoing support of its outsourced research and development suppliers. 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 a 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.

On March 17, 2015 Titan announced that it completed its first quarter milestone, the design and test of a feasibility prototype. This milestone demonstrates feasibility to build a next generation workstation and advanced instruments and it enables expanded use of the SPORT™ Surgical System.

The Company completed the build of two engineering verification units in the fourth quarter of 2015. The Company had previously announced plans to build first-in-human units in the first quarter of 2016 after the completed build of the two engineering verification units. However, due to the revision of the development path, the first-in-human units will be repurposed as EEV units. The EEV units were completed during the first quarter of 2016. The EEV units incorporate substantially all of the previous design and engineering work completed on the SPORT™ Surgical System and will be used for optimization trials and cadaver studies. The cadaver studies will replace the previously planned early human feasibility studies.

The cadaver studies are expected to provide more comprehensive and higher quality information in a shorter time period and to have the potential to enable earlier regulatory submission to the United States Food and Drug Administration ("FDA"). Given the progress the Company has made in the build of the prototype units to date as well as having a better understanding of the quantity and quality of information required to support the FDA 510(k) application, the Company believes it now has a better understanding of the time and information requirements involved in the build and regulatory process.

### ***Selected Annual Information***

The following table summarizes selected financial data reported by the Company for the years ended December 31, 2015, 2014 and 2013 in accordance with International Financial Reporting Standards ("IFRS"). The information set forth should be read in conjunction with the respective audited financial statements. All amounts shown are in U.S. dollars which is the company's functional and presentation currency.

	2015	2014	2013
Net sales	-	-	-
Net and comprehensive loss for the year	\$41,413,281	\$13,450,261	\$8,784,993
Basic & diluted loss per share	\$0.40	\$0.14	\$0.12
Total long term liabilities	-	-	-
Total assets	\$12,886,310	\$35,389,436	\$3,207,171
Dividends	-	-	-

Significant changes in key financial data from 2013 to 2015 can be attributed to the availability of added funding and resulting development of the Company's robotic surgical system.

In 2012, the Company started the transition of its technology development to the SPORT™ Surgical System. This continued development growth was possible as a result of successful financings completed in the last three years.

Effective January 1, 2014, the Company adopted, on a prospective basis, the U.S. dollar as its functional and presentation currency. In accordance with IAS 32, because the exercise prices of the warrants issued subsequent to January 1, 2014, are not fixed amounts as they are denominated in a currency (Canadian dollar) other than the Company's functional currency (U.S. dollar), these warrants are accounted for as a derivative financial liability. The warrant liability as well as warrants issuable from the exercise of broker warrants, is initially measured at fair value and subsequent changes in fair value are recorded through Net and Comprehensive Loss for the applicable period. The fair value of these warrants is determined initially using a comparable warrant quoted in an active market, adjusted for differences in the terms of the warrants. At December 31, 2015, the warrant liability was adjusted to fair value measured at the market price of the listed warrants.

### *Discussion of Operations*

The Company incurred a net and comprehensive loss of \$41,413,281 during the year ended December 31, 2015, compared with a net and comprehensive loss of \$13,450,261 the year ended December 31, 2014. This increase in net and comprehensive loss for the period is attributed primarily to the increase in ongoing spending related to the continued research and development of the SPORT™ Surgical System. In addition, foreign exchange loss in the year ended December 31, 2015 was \$873,823, compared to \$572,594 for the same periods in 2014.

During the year ended December 31, 2015, corporate efforts were ongoing related to furthering key strategic relationships, carrying on efforts to secure the Company's intellectual property through the patent and licensing process, and continuing the development of the Company's robotic surgical system. As of December 31, 2015, the Company has ownership or exclusive rights to eleven patents and twenty-six patent applications filed with various patent offices.

Research and development expenditures (all of which were expensed in the period) for the year ended December 31, 2015 and December 31, 2014, respectively, were as follows:

<b>Research and Development Expenditures</b>	<b>Year Ended December 31, 2015</b>	<b>Year Ended December 31, 2014</b>
Intellectual property development	\$20,000	\$35,659
License and royalties	517,505	81,872
Product development	<u>37,675,827</u>	<u>10,561,318</u>
Total	<u>\$38,213,332</u>	<u>\$10,678,849</u>

Research and development expenditures increased in the year ended December 31, 2015 over the same period in 2014. This increase was possible due to the most recent equity financings completed in the fourth quarter of 2015 and from financing obtained in the first and second quarters of 2014. The Company continues to push to achieve its milestone deliverables of CE Mark approval and outside U.S. commercial launch.

Excluding foreign exchange, general and administrative expenses for the year ended December 31, 2015, amounted to \$3,557,638 compared to \$3,522,777 for the comparable period in 2014.

For the year ended December 31, 2015, the foreign exchange loss was \$1,361,336 before foreign exchange on warrant liabilities, compared to \$1,135,862 for the comparable periods in 2014. The increase in foreign exchange loss of \$225,474 for the year ended December 31, 2015 compared to the same period in 2014 is attributed to converting Canadian dollar cash to US dollars at significantly unfavourable foreign exchange rates in 2015. The U.S. dollar was considerably stronger against the Canadian dollar at December 31, 2015 compared to December 31, 2014. The Company does not currently have a formal foreign exchange hedging policy as the Company only maintains a minimum balance on hand of Canadian dollars. At December 31, 2015 the foreign exchange on the warrant liabilities was a gain of \$487,513, versus a gain of \$563,268 for the comparable period in 2014.

The gain attributed to change in fair value of warrants for the year ended December 31, 2015 was \$1,142,876, compared to a gain of \$1,018,666 for the same period at December 31, 2014. This increase in gain of \$124,210 reflects a reduction in fair value of warrants in 2015 compared to 2014 coupled with an increase in the number of outstanding warrants from 20,664,770 at December 31, 2014 to 27,676,965 at December 31, 2015.

Titan realized \$88,637 of interest income in the year ended December 31, 2015 and \$305,923 in the year ended December 31, 2014. This decrease in interest income is due to the lower cash balances, as the Company advances its development of the SPORT™ Surgical System.

For a discussion with regard to the status of the development of the SPORT™ Surgical System, please see “*Development Objectives*” below.

### *Summary of Quarterly Results*

The following is selected financial data for each of the eight most recently completed quarters, derived from the Company's financial statements, calculated in accordance with IFRS.

	Three Months Ended December 31, 2015	Three Months Ended September 30, 2015	Three Months Ended June 30, 2015	Three Months Ended March 31, 2015	Three Months Ended December 31, 2014	Three Months Ended September 30, 2014	Three Months Ended June 30, 2014	Three Months Ended March 31, 2014
Net sales	-	-	-	-	-	-	-	-
Net and Comprehensive Loss (gain) from operations	\$13,136,604	\$10,899,586	\$8,250,823	\$9,126,268	(\$221,995)	\$3,279,621	\$6,781,692	\$3,610,943
Basic and diluted loss per share	\$0.12	\$0.11	\$0.08	\$0.09	(\$0.01)	\$0.03	\$0.07	\$0.05

Significant changes in key financial data from the three months ended March 31, 2014 to the three months ended December 31, 2015 reflects the transition from the development and evaluation of the surgeon workstation, video system control tower and multi-port patient cart to the commencement of a subsequent development cycle that includes the development of a single-site platform with a prototype for use in ongoing tissue animal and cadaver testing. Also included is the ongoing impact of changing the functional and presentation currency from Canadian dollars to U.S. dollars and the requirement to revalue the Company's warrant liability at fair value with subsequent changes recorded through net and comprehensive loss for the period.

During the 4<sup>th</sup> quarter of 2015, operating expenses, other than foreign exchange was \$834,456 compared to \$833,304 for the same period in 2014. Foreign exchange gain in Q4 2015 was \$97,255 compared to a foreign exchange loss of \$529,357 for the same period in 2014. This increase in foreign exchange gain of \$626,612 is attributed to having minimum Canadian dollar cash balances in 2015 when compared to 2014. The loss from operations prior to interest income and fair value revaluation of warrants was \$13,840,124.

### *Liquidity and Capital Resources*

The Company currently does not generate any revenue or income (other than interest income on its cash balances) and accordingly, it is (and it will be for the foreseeable future) dependent primarily upon equity financing for any additional funding required for development and operating expenses.

The ability of the Company to arrange such financing in the future will depend in part upon prevailing capital market conditions and the business success of the Company. There can be no assurance that the Company will be successful in its efforts to arrange additional financing on terms satisfactory to the Company. If additional financing is raised by the issuance of shares or convertible securities from treasury, control of the Company may change and shareholders may suffer additional dilution. If adequate funds are not available, or are not available on acceptable terms, the Company may not be able to take advantage of opportunities, or otherwise to continue its technology development program at its current pace.

Titan had \$11,197,573 of cash, cash equivalents and short-term investments on hand and accounts payable, accrued liabilities, and other liabilities and charges of \$11,159,829, excluding warrant liability at December 31, 2015, compared to \$33,923,182, and \$2,766,315 respectively, at December 31, 2014. Titan's working capital as at December 31, 2015 was \$1,273,401, excluding warrant liability, compared to \$32,259,475, at December 31, 2014. This decrease in working capital is primarily attributed to the ongoing development of the SPORT™ Surgical System. Even though we continue to ramp up development, accounts payable are current at December 31, 2015.

Below is a table that sets out the various series of Titan warrants that were previously issued, using historic rates. The disclosure of the potential proceeds in the last column of the table below assumes all warrants are exercised on or before the expiry date. However, there is no assurance that any warrants will be exercised prior to their expiry.

<b>Ticker Symbol</b>	<b>Issue Date</b>	<b>Expiry Date</b>	<b>Number Issued</b>	<b>Number Outstanding</b>	<b>Exercise Price (CDN \$)</b>	<b>Potential Proceeds (CDN \$)</b>
TMD.WT.A	June 21, 2011	June 21, 2016	5,577,500	5,121,500	\$2.00	10,243,000
TMD.WT.B	December 22, 2011	December 22, 2016	4,880,000	3,484,500	\$1.75	6,097,875
NOT LISTED	March 14, 2012	March 14, 2017	1,986,755	390,729	\$1.77	691,590
TMD.WT.C	March 13, 2013	March 13, 2018	6,260,763	5,260,705	\$1.25	6,575,881
TMD.WT.D	February 19, 2014	February 19, 2017	9,142,500	8,317,856	\$2.00	16,635,712
TMD.WT.E	April 23, 2014	April 23, 2017	12,203,189	12,346,914	\$2.75	33,954,014
TMD.WT.F	November 16, 2015	November 16, 2020	7,012,195	7,012,195	\$1.60	11,219,512
TMD.WT.G	February 12, 2016	February 12, 2021	11,670,818	13,347,607	\$1.00	13,347,607
	February 23, 2016	February 23, 2016	1,746,789			
<b>TOTAL</b>			<b>60,480,509</b>	<b>55,282,006</b>		<b>98,765,191</b>

### ***Development Objectives***

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

In Q1 2016, in consultation with its advisors, the Company and its development firm, Ximedica, LLC, re-engineered and optimized the 2016 development plan. As a result, the Company has revised its estimates of the total cost to reach commercialization and the nature and timing of the

development milestones. These changes are expected to have only minimal impact on the time needed to complete the required studies and other testing that will support the 510(k) application to the FDA. The “Development Milestone” table below has been adjusted to reflect these changes.

The Company’s current plan is to focus on the development and commercialization of the SPORT™ Surgical System at estimated incremental costs, and according to the timeline, as set forth in the table below.

The Company’s development and commercialization efforts have been based on “voice of customer” feedback, consultations with external medical technology development firms and the Company’s Surgeon Advisory Board. The Company is pursuing a broad set of surgical indications, including general abdominal, gynecologic, urologic and colorectal procedures for the SPORT™ Surgical System. The Company anticipates costs related to the commercialization and regulatory approval of the SPORT™ system to be as set out in the table below.

The Company’s development milestones, estimated costs and schedule for completion, in each case as at February 29, 2016, are set out below.

<i>Development Milestones</i>	<i>Estimated Cost (in U.S. \$)</i>	<i>Schedule Milestone for Completion</i>	<i>Comments</i>
<b>Alpha commercial prototype design complete</b> (Design of prototype suitable for ongoing tissue testing)	-	Q1 2014	<i>Completed</i>
<b>Alpha commercial prototype built</b>	-	Q2 2014	<i>Completed</i>
<b>Tissue testing</b> (Testing performance of individual features and functionality)	-	Q2 2014	<i>Completed</i>
<b>Design and test of feasibility prototype complete</b> (Demonstrate feasibility for next generation console and advanced instruments)		Q1 2015	<i>Completed</i>
<b>Units built and ready for engineering verification</b> (Prototype is formally tested to meet previously defined specifications)	(2 milestones)		
Build 2 engineering verification units	-	Q4 2015	<i>Completed</i>
Build Extended Engineering Verification, EEV, units		Q1 2016	<i>Completed</i>
<b>Optimization trials / Cadaver labs initiated</b>	\$12 million (2 milestones)	Q3 2016 <i>Expected</i>	
<b>Audit for CE Mark approval commenced</b>	\$5 million	Q3 2016 <i>Expected</i>	
<b>Design verification completed and 510(k) application submitted to FDA</b>	\$7 million	Q1 2017	
<b>Pivotal human clinical trial commenced</b>	\$5 million	Q1 2017 <i>Expected</i>	
<b>Outside U.S. commercial launch</b> (Pending CE Mark approval)	\$5 million	Q1 2017 <i>Expected</i>	
<b>U.S. commercial launch</b> (Pending 510(k) market clearance)		Q3 - 2017 <i>Expected</i>	
<b>TOTAL</b>	<b>U.S. \$34 million</b>		

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 of its SPORT™ Surgical System progresses, or existing milestones, budgets and the schedule for completion of each milestone may change depending on a number of factors including the results of the Company's development program, the availability of financing and the ability of development firms engaged by the Company to completed work assigned to them. The total costs to complete the development 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.

Please also refer to the risk factors set forth starting on page 13 of the Company's Annual Information Form for the 2015 fiscal year, available on SEDAR at [www.sedar.com](http://www.sedar.com).

### ***Financings***

On March 24, 2016, the Company entered into an agency agreement with Bloom Burton & Co. Limited ("Bloom Burton"), a Canadian investment dealer, in respect of a public offering (the "March 2016 Offering") by the Company of a minimum of 14,000,000 units of the Company ("Units") and a maximum of 16,000,000 Units at a price of CDN \$1.00 per Unit. Each Unit will consist of one common share of the Company (each common share, a "Common Share") and one warrant (each warrant, a "Warrant"). Each Warrant entitles its holder, upon exercise, to purchase one Common Share at a price of CDN \$1.20 during the period of 5 years following the closing of the March 2016 Offering (the "Closing"). The Company filed a prospectus supplement to its short form base shelf prospectus dated August 18, 2015, on March 24, 2016, in the provinces of Ontario, British Columbia and Alberta.

In connection with the March 2016 Offering, Bloom Burton will be paid a cash commission equal to 7.0% of the gross proceeds of the March 2016 Offering and it will be issued that number of non-transferable broker warrants exercisable for Units equal to 7.0% of the number of Units sold in the March 2016 Offering. The Company will also grant Bloom Burton an over-allotment option to offer for sale that number of additional Units and/or Warrants equal to 15% of the Units sold under the March 2016 Offering, exercisable at any time up to 30 days after the Closing. The Company expects the Closing to occur on or about March 31, 2016.

On February 12, 2016 Titan completed an offering of securities (the "February 2016 Offering") made pursuant to an agency agreement dated February 9, 2016 between the Company and Bloom Burton. The Company sold 11,670,818 Units under the February 2016 Offering at a price of CDN \$0.90 per Unit for gross proceeds of approximately USD\$7,592,101. Each Unit consists of one Common Share of the Company and one Warrant. Each whole Warrant entitles the holder

thereof to acquire one Common Share of the Company at an exercise price of CDN \$1.00 which expire February 12, 2021.

On February 23, 2016 the over-allotment option granted to Bloom Burton in connection with the February 2016 Offering was exercised in full and the company sold an additional 1,746,789 Units at the offering price of CDN \$0.90 per Unit for gross proceeds to Titan of approximately USD\$1,139,937 (the “February 2016 Over-Allotment Offering”).

Pursuant to the agency agreement, in addition to the cash commission of 7.0% of the aggregate gross proceeds from the February 2016 Offering and February 2016 Over-Allotment Offering paid to Bloom Burton (excluding the gross proceeds raised through the sale of Units to certain institutional purchasers of Units in the United States as identified in the side letter among Bloom Burton and the Company dated February 2, 2016 and subscribers identified by the Company on a list provided to Bloom Burton, broker warrants were issued to purchase 916,443 Units in connection with the Offering (including the February 2016 Over-Allotment Offering). Each broker warrant entitles the holder thereof to purchase one Unit of the Company at the price of CDN\$0.90 for a period of 24 months following the closing date.

On October 30, 2015, Titan entered into a letter agreement (the “Letter Agreement”) with Longtai Medical Inc. (“Longtai”). On November 23, 2015 Titan closed a private placement of 4,290,280 Common Shares at a subscription price of CDN\$1.23 per Common Share for gross proceeds of US\$4,000,000 with Longtai as the subscriber. Longtai is an importer and distributor of high end medical devices for multinational companies.

Under the Letter Agreement Titan has granted to Longtai exclusive rights to negotiate for an exclusive marketing, sales and distribution agreement for Titan’s SPORT™ Surgical System in the Asia Pacific region for a period of 183 days (the “Distributorship Agreement”). Longtai has paid to Titan US\$2,000,000 as a deposit toward the Distributorship Agreement, which shall be repaid to Longtai in the event that the agreement is not entered into within the 183-day period. Longtai will concurrently with the signing of the Distributorship Agreement, subscribe for and purchase an additional US\$4,000,000 worth of Common Shares at a share issue price equal to the 5-day VWAP (less a 12.5% discount). If the Distributorship Agreement is signed and the second US\$4,000,000 private placement is completed, Titan will retain US\$1,400,000 of the Distributorship Deposit and repay US\$600,000 to Longtai.

On November 16, 2015, Titan completed an offering of securities pursuant to an agency agreement dated November 6, 2015 between the Company and Octagon Capital Corporation (the “Agent”). The offering consisted of 8,130,081 Units and the exercise of an over-allotment option of 1,219,512 Units for a total of 9,349,593 Units at a price of CDN\$1.23 per Unit for gross proceeds of USD\$8,611,901 (USD\$7,629,360 net of closing costs including cash commission of USD\$586,660 paid in accordance with the terms of the agency agreement with the Agent). Each Unit comprised of one Common Share and 0.75 of a Warrant. Each whole Warrant entitles its holder to purchase one additional Common Share of Titan for CDN\$1.60 which will expire November 16, 2020. The Warrants were valued at USD\$770,177 using a comparable warrant quoted in an active market, adjusted for differences in the terms of warrant and the balance of USD\$7,841,724 was allocated to Common Shares.

The utilization of proceeds as outlined in the prospectus supplement dated November 6, 2015, to the short form base shelf prospectus of the Company dated August 18, 2015 has been updated as outlined in the following table:

	Proceeds from the Offering as outlined in the prospectus supplement dated November 6, 2015 (Including the 15% overallotment)
Ongoing development and commercialization of the SPORT™ Surgical System	\$6,103,488
General working capital requirements	<u>1,525,872</u>
Total Net Proceeds	<u>\$7,629,360</u>

The Company has not deviated from its plan to use the net proceeds of the offerings described in the table above towards the ongoing development and commercialization of its SPORT™ Surgical System and general working capital purposes. However, in Q1 2016, the Company and its development firm, Ximedica, LLC, re-engineered and optimized the 2016 development plan. As a result, the Company anticipates an impact on both the total cost to reach commercialization and its ability to meet the Q2 2016 and subsequent milestones as previously communicated to be delayed by at least one quarter. See “*Development Objectives*” above.

### ***Off-Balance Sheet Arrangements***

Other than for leased premises occupied by the Company, and licensing agreements both of which are discussed in note 8 of the audited financial statements for the year ended December 31, 2015 and 2014, the Company does not utilize off balance sheet arrangements.

### ***Outstanding Share Data***

The following table summarizes the outstanding share capital as of the date of this Management’s Discussion and Analysis:

Type of Securities	Number of Common Shares issued or issuable upon conversion
Common Shares	130,084,932
Stock options <sup>(1)</sup>	2,888,763
Warrants	55,282,006
Broker warrants <sup>(2)</sup>	1,471,909

Notes:

- (1) The Company has outstanding options enabling certain employees, directors, officers and consultants to purchase Common Shares. Please refer to note 5(b) of the Audited Financial Statements for terms of such options.
- (2) Pursuant to the agency agreement in respect of the April 23, 2014 offering, in addition to the cash commission paid to the agents, broker warrants were issued to purchase 699,191 Units. Each broker warrant entitles the holder thereof to acquire one Unit of the Company at the price of CDN\$2.10 for a period of 24 months following the closing date. Each Unit consists of one Common Share and one Warrant. Each Warrant entitles the holder to acquire one Common Share of the Company at an exercise price of CDN\$2.75 per share for a period of 36 months from the date of closing.

Pursuant to the agency agreement in respect of the February 2016 Offering, in addition to the cash commission paid to the agent for the offering, 916,443 broker warrants were issued to the agent. Each broker warrant entitles the holder thereof to acquire one Unit of the Company at the price of CDN\$0.90 for a period of 24 months following the closing date. Each Unit consists of one Common Share and one Warrant. Each Warrant entitles the holder to acquire one Common Share of the Company at an exercise price of CDN\$1.00 for a period of 60 months from the date of closing.

A total of 699,191 and 916,443 broker warrants were issued relating to the April 23, 2014 offering and the February 2016 Offering respectively and as of the date hereof, 555,466 and 916,443 of these broker warrants remain outstanding.

### ***Changes in Functional and Presentation Currency***

Effective January 1, 2014, the Company adopted, on a prospective basis, the U.S. dollar as its functional and presentation currency. In accordance with IAS 32, because the exercise price of new warrants are not a fixed amount, they are denominated in a currency (Canadian dollar) other than the Company's functional currency (U.S. dollar). Accordingly, the warrants are accounted for as a derivative financial liability. The warrant liability is initially measured at fair value using a comparable warrant quoted in an active market, adjusted for differences in the terms of the warrant and subsequent changes in fair value, using the market price of warrants, are recorded through net and comprehensive loss for the period.

### ***Accounting Policies***

The accounting policies set out in the notes to the audited financial statements have been applied in preparing the audited financial statements for the year ended December 31, 2015, and the comparative information presented in the audited financial statements for the year ended December 31, 2014.

The preparation of financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of provisions at the date of the financial statements and the reported amount of expenses during the period. Financial statement items, subject to significant judgement include, the valuation of patent rights, the measurement of stock based compensation and warrants. While management believes that the estimates and assumptions are reasonable, actual results may differ.

### ***Fair Value***

The Black-Scholes model used by the Company to determine fair values of stock options and warrants was developed for use in estimating the fair value of the stock options and warrants. This model requires the input of highly subjective assumptions including future stock price volatility and expected time until exercise. Changes in the subjective input assumptions can materially affect the fair value estimate.

### ***Related Party Transactions***

During the year ended December 31, 2015, transactions between the Company and directors, officers and other related parties were related to compensation matters in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

1. On June 8, 2015, the Company entered into an option agreement (the “Technology Option Agreement”) with Platform Imaging, LLC (“Platform”) whereby Platform granted the Company an option (the “Option”) to negotiate a license agreement (“License Agreement”) to have exclusive rights to practice the inventions set forth in the patents for Markerless Tracking of Robotic Surgical Tools for incorporation in the Company’s SPORT™ Surgical System and to distribute such product thereafter. Under the terms of the Technology Option Agreement, the Company must pay to Platform a non-refundable option fee of \$300,000 as follows: (i) \$100,000 upon signing the Technology Option Agreement; (ii) \$100,000 on January 2, 2016; and (iii) \$100,000 on October 1, 2016. In addition, the Company shall have the right at any time up to and including January 2, 2017, to exercise the Option by paying a fee of \$1.3 million (the “License Fee”) for the rights under the License Agreement, payable upon execution of a License Agreement. A member of the Company’s senior management is also a director, member of the Platform senior management team, co-inventor of the technology, co-founder of Platform and a significant shareholder of Platform.
2. During the period, the Company retained the services of an individual related to a senior executive to provide consulting services in support of marketing efforts for the European market. Compensation includes the grant of stock options valued at \$25,000 and monthly consulting fees of U.S. \$12,000, plus reimbursement of appropriate expenses.

### ***Financial Instruments***

The Company's financial instruments consist of cash and cash equivalents, short-term investments, amounts receivable, accounts payable and accrued liabilities, warrant liability, and other liabilities and charges. The fair value of these financial instruments approximates their carrying values, unless otherwise noted, due to the short maturities of these instruments or the discount rate applied.

### ***Management Compensation***

In the year, the compensation set out below was earned by directors and officers in connection with them providing services as directors and officers of Titan. No other compensation arrangements were made with any director or officer of Titan during 2015.

## *Officers*

<b>Name</b>	<b>Title</b>	<b>Salary</b>	<b>Stock Options</b>	<b>Total</b>
Reiza Rayman	President	\$184,524	\$21,457	\$205,981
John Hargrove	Chairman and CEO	\$203,500	\$36,708	\$240,208
Stephen Randall	CFO and Secretary	\$150,515	\$53,644	\$204,159
Dennis Fowler	Executive VP, Clinical and Regulatory Affairs	\$231,250	\$53,644	\$284,894

## *Directors*

Independent directors of the Company are provided compensation in the form of an annual retainer, (Cdn. \$15,000) paid in advance, meeting fees (Cdn. \$1,000 per meeting) paid in arrears and an additional retainer for chairing committees, (Cdn. \$2,500), paid in advance.

The following table sets out the compensation earned by each of the independent directors in 2015. All compensation to directors is paid through the issuance of stock options, or cash, at the discretion of the directors, on an annual basis. Currently all directors compensation is paid through stock options.

<b>Name</b>	<b>Annual Retainer</b>	<b>Committee Chair</b>	<b>Meeting Fees</b>	<b>Stock Options Granted</b>	<b>Total Compensation (\$)</b>
J.E. Barker <sup>(1)</sup>	\$12,026	\$2,004	\$13,294	\$27,234	\$27,234
Martin Bernholtz <sup>(2)</sup>	\$12,026	\$2,004	\$13,294	\$27,234	\$27,234
Dr. Bruce Wolff	\$12,026	N/A	\$12,512	\$24,538	\$24,538

Notes:

(1) Chairman of the compensation committee.

(2) Chairman of the audit committee.

## *Outlook*

Titan continues to focus its efforts on the development of the SPORT™ Surgical System and is continuing its move towards commercialization. In 2015, multiple cadaver studies were performed by three members of the Surgeon Advisory Board. The procedures that were performed included abdominal hysterectomy, prostatectomy, and ureteroneocystostomy, addressing three key anatomical areas of focus for SPORT™. On December 21, 2015, the Company announced that it has completed the build of the initial SPORT™ Surgical System to include both work station and patient cart. These two units along with the EEV units will undergo extensive testing as a part of engineering verification (EV). These systems will be tested to measure performance in relation to design specifications and to measure compliance with regulatory guidelines.

Titan continues to advance its regulatory process. Titan has developed its Quality Management System in preparation for the audits leading to obtaining the CE Mark and FDA certification. As required testing is completed, the results will be incorporated into the documentation and technical files to be reviewed during the audits. All studies to support our 510(k) application for FDA approval are either ongoing or planned for the appropriate time in the development process.

On a regular basis, Titan undertakes a detailed analysis and reasonableness review of its development milestones and related cost estimates.

Over the course of the next twelve months, Titan's objectives include continuing to significantly advance the development of its robotic surgical system including the build of extended engineering verification units (EEV) to be used for a number of planned optimization trials and cadaver studies. In addition, the Company anticipates commencing an audit for obtaining CE Mark approval in Q3 2016 and commercial launch of the SPORT™ Surgical System, pending CE Mark approval, in Q4 of 2016. On September 7, 2015, the Company entered into a master services agreement with Chiltern International, Inc. ("Chiltern"), formerly Theorem CR, Inc., which will allow the parties to negotiate the provision of clinical trial research services to be provided by Chiltern to Titan from time to time, without having to re-negotiate the terms and conditions for each such service.

Titan will continue its ongoing development, pursuit of key strategic relationships and carrying on efforts to secure its intellectual property through the patent and licensing process. The pace at which Titan can carry out ongoing development continues to be substantially dependent on its ability to raise the necessary capital on a timely basis.

### ***Additional Information***

Additional information relating to Titan, including Titan's Annual Information Form for the 2015 fiscal year, is available on SEDAR at [www.sedar.com](http://www.sedar.com).