

**TITAN MEDICAL INC.**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2016**  
**(IN UNITED STATES DOLLARS)**

This Management's Discussion and Analysis ("MD&A") is dated November 8, 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 unaudited condensed interim financial statements for the three and nine months ended September 30, 2016 (and the notes thereto) (the "Financial Statements"). The Financial Statements have been prepared in accordance with International Accounting Standards 34, Interim Financial Reporting ("IAS 34").

***Internal Control over Financial Reporting***

During the three and nine months ended September 30, 2016, 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, urologic and colorectal 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 main objectives include the resumption of work by its principal development firm and its

principal manufacturing firm, being Ximedica, LLC and Plexus Corp., respectively; 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 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 from certain offerings 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 Company's material development milestones include: initiate human factors and usability trials, complete human factors and usability trials; optimization trials; design freeze; build design verification units; initial audit for CE mark; final CE mark audit; submit 510(k) application to FDA; if the Distributorship Agreement is executed and the second US \$4,000,000 private placement is completed, the Company shall retain US \$1,400,000 of the Distributorship Deposit 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 13 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, Ontario, 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). 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 the research and development of computer-assisted robotic surgical technologies for application in minimally invasive surgery ("MIS"). The Company is currently developing the SPORT Surgical System, a single-port/single-incision robotic surgical system providing remote surgical tele-operation capabilities. The SPORT Surgical System comprises a surgeon-controlled robotic platform, the 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 a 3D endoscopic view of inside a patient's body during MIS procedures via a 3D high definition display. With the SPORT Surgical System, the Company aims to pursue a broad set of surgical indications, including general abdominal, gynecologic, urologic and colorectal 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 design a robotic surgical system that would 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 that provides a more ergonomic-friendly surgeon workstation user interface and a robotic platform with improved instrument dexterity. The advanced ergonomic design of the workstation also includes customized 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. The surgical system is designed 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 operating room ("OR") teams.

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 and surgeon controls that allow the user to control the instruments through movements of the surgeon controllers.

In addition to the research and 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's 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 a camera 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 camera insertion tube ("CIT") includes a portion incorporating the 3D high definition vision system inside a camera module at a distal end. The CIT provides the surgeon and OR team with an image during preparation of the patient and once positioned generally at the surgical site, the CIT 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 seated 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 for each case and eliminate the reprocessing of tools. 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 cost per case. 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 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 has entered into 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 September 30, 2016, the Company had ownership or exclusive rights to fourteen patents and thirty one patent applications. 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 conducting the work necessary for completing and supporting regulatory submissions. To assess progress, the Company regularly tests and evaluates its technology. If such tests and 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 continuing its research and development program, including the ongoing support of any outsourced research and development suppliers. The principal development firm and the principal manufacturing company engaged by the Company had recently expressed their concerns over the limited financing available to the Company and subsequently decided to temporarily suspend development work on the SPORT Surgical System until such time that the Company received sufficient financing to cover current and future work orders projected over a six-month period. Although suspending development, both companies continued to provide updating of necessary documentation and supported ongoing demonstrations of the SPORT Surgical System. Subsequent to the last fund raising by the Company which closed on September 20, 2016, both the principal development and manufacturing firms have been re-engaged by Titan and have commenced resumption of work on the development of the SPORT Surgical System.

In addition to being capital intensive, research and development activities relating to the sophisticated technologies that the Company is developing 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. See "Risk Factors".

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 have been repurposed as extended engineering verification units ("EEV units") and 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. At this time, the intent is to have the cadaver studies replace the previously planned early human feasibility studies. The cadaver studies are expected to provide comprehensive and high 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").

The Company achieved its key milestone for the second quarter of 2016 with the initiation of human factor and usability trials for the SPORT Surgical System. The Company completed several sessions of studies with personnel from independent hospitals in which it was able to

document and improve the performance of the SPORT Surgical System during setup, performance of the system during use by the nursing team during operations, and reprocessing between operations.

On June 1, 2016, the Company entered into an agreement (the “Subscription Agreement”) for an equity investment from Shanghai Jugu Equity Investment Fund Co. Ltd. (“Shanghai Jugu”). Under the terms of the Subscription Agreement, Shanghai Jugu agreed to subscribe for and purchase US \$16,000,000 worth of common shares under a private placement, at a subscription price of CDN \$0.746 per common share. However, Shanghai Jugu did not complete the financing pursuant to the terms of the Subscription Agreement and there can be no assurance that the investment from Shanghai Jugu will be completed.

### ***Discussion of Operations***

The Company incurred a net and comprehensive loss of \$1,659,863 and \$21,315,131 during the three and nine months ended September 30, 2016, compared with a net and comprehensive loss of \$10,899,586 and \$28,276,677 for the three and nine months ended September 30, 2015. This decrease in net and comprehensive loss for the period is attributed primarily to the temporary suspension of development work on the SPORT Surgical System in the quarter. In addition, foreign exchange (gain) or loss in the three and nine months ended September 30, 2016, before foreign exchange on warrant liabilities was \$33,697 and \$135,054, compared to \$9,801 and \$1,361,624 for the comparable periods in 2015. This reduction in foreign exchange loss of \$1,226,570 for the nine months ended September 30, 2016 compared to the same period in 2015 is attributed to substantially higher Canadian dollar cash balances in 2015 when compared to 2016 and the effects of translating the 2015 Canadian dollar cash balance to U.S. dollars at unfavourably low foreign exchange rates. The Company does not currently have a formal foreign exchange hedging policy as the Company now maintains a minimum balance on hand of Canadian dollars. At September 30, 2016 the foreign exchange on the warrant liabilities was a loss of \$199,912, versus a gain of \$390,546 for the comparable period in 2015.

During the three and nine months ended September 30, 2016, 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 September 30, 2016, the Company has ownership or exclusive rights to fourteen patents and thirty one patent applications filed with various patent offices.

Research and development expenditures (all of which were expensed in the period) for the three and nine months ended September 30, 2016 and September 30, 2015, respectively, were as follows:

Research and Development Expenditures	Three Months Ended September 30, 2016	Nine Months Ended September 30, 2016	Three Months Ended September 30, 2015	Nine Months Ended September 30, 2015
Intellectual property development	\$5,000	\$15,000	\$5,000	\$15,000
License and royalties	6,531	82,531	6,877	391,260
Product development	<u>3,418,019</u>	<u>21,430,437</u>	<u>10,682,961</u>	<u>24,704,149</u>
Total	<u>\$3,429,550</u>	<u>\$21,527,968</u>	<u>\$10,694,838</u>	<u>\$25,110,409</u>

Research and development expenditures decreased in the three and nine months ended September 30, 2016 over the same period in 2015. This decrease was as a result of our principal development and manufacturing firms electing to temporarily suspend development work until such time as sufficient additional financing had been obtained. Subsequent to the Company's most recent capital raise, which closed September 20, 2016, both firms have resumed work on the development of the SPORT Surgical System.

Excluding foreign exchange, general and administrative expenses for the three and nine months ended September 30, 2016, amounted to \$1,388,635 and \$3,618,012 compared to \$826,947 and \$2,723,183 for the comparable period in 2015.

The gain attributed to change in fair value of warrants for the three and nine months ended September 30, 2016 was gain of \$3,277,044 and \$4,623,658, compared to gain of \$433,738 and \$443,574 for the same period at September 30, 2015. The change in gain of \$2,843,306 and \$4,180,084 for the three and nine months ended September 30, 2016 reflects a reduction in fair value of warrants in 2016 compared to 2015.

Titan realized \$1,172 and \$5,438 of interest income in the three and nine months ended September 30, 2016 and \$6,557 and \$84,420 in the three and nine months ended September 30, 2015. This decrease in interest income is due to the lower cash balances experienced by the Company during the period.

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

Effective August 31, 2016, Dr. Dennis Fowler, Executive VP, Clinical and Regulatory Affairs, resigned from the Company.

### ***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 September 30, 2016	Three Months Ended June 30, 2016	Three Months Ended March 31, 2016	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
Net sales	-	-	-	-	-	-	-	-

Net and Comprehensive Loss (gain) from operations	1,659,863	\$7,934,874	\$11,720,394	\$13,136,604	\$10,899,586	\$8,250,823	\$9,126,268	(\$221,995)
Basic and diluted loss per share	\$0.01	\$0.05	\$0.09	\$0.12	\$0.11	\$0.08	\$0.09	(\$0.01)

Significant changes in key financial data from the three months ended December 31, 2014 to the three months ended September 30, 2016 reflects the ongoing development of the SPORT Surgical System. Also included is the requirement to revalue the Company's warrant liability at fair value with subsequent changes recorded through net and comprehensive loss for the period.

### ***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 \$7,399,331 of cash and cash equivalents on hand and accounts payable and accrued liabilities of \$4,009,806, excluding warrant liability, at September 30, 2016, compared to \$11,197,573, and \$11,159,829 respectively, at December 31, 2015. Titan's working capital as at September 30, 2016 was \$3,682,462, excluding warrant liability, compared to \$1,273,401, 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.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	11,600,818	\$1.00	11,600,818
TMD.WT.G	February 23, 2016	February 23, 2021	1,746,789	1,746,789	\$1.00	1,746,789
TMD.WT.H	March 31, 2016	March 31, 2021	15,054,940	15,054,940	\$1.20	18,065,928
TMD.WT.H	April 14, 2016	April 14, 2021	2,258,241	2,258,241	\$1.20	2,709,889
TMD.WT.I	September 20, 2016	September 20, 2021	17,083,333	17,083,333	\$0.75	12,812,500
TMD.WT.I	October 27, 2016	October 27, 2021	2,030,000	2,030,000	\$0.75	1,522,500
TOTAL			91,329,523	86,587,020		123,633,008

### ***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 the first quarter of 2016, in consultation with its advisors, the Company and its principal development firm, Ximedica, LLC ("Ximedica"), re-engineered and optimized the 2016 development plan. This was done partially in view of recent developments within the robotic surgery sector and published changes to the FDA guidelines, "Applying Human Factors and Usability Engineering to Medical Devices", issued February 3, 2016, effective April 3, 2016. The Company has reviewed the FDA's new guidelines and it has incorporated additional testing procedures and documentation into its Human Factor and Usability Trials in compliance with the new guidelines. Consequently, the Company expects total costs for it to reach submission of a 510(K) application to the FDA to increase significantly from the Company's previously published estimate. The Company therefore withdrew its milestone charts set forth in the Company's Management's Discussion and Analysis and AIF in respect of the year ended December 31, 2015 and those set forth in its prospectus supplements respectively dated February 9, 2016 and March 24, 2016. The amounts and timing of Titan's actual expenditures will depend upon numerous factors, including the status of its development and commercialization efforts and the amount of cash generated through any strategic collaborations into which it may enter.

The Company estimates that it will require a minimum of approximately US\$16 million to fund its development milestones for 2016 and the first half of 2017, being the development milestones related to the completion of the Human Factors and Usability Trials.

Both the principal development firm and the principal manufacturing company engaged by the Company had previously decided to temporarily suspend development work on the SPORT Surgical System until such time that the Company had received sufficient financing to cover current and future work orders projected over a six-month period. Subsequent to the Company's most recent capital raise, which closed September 20, 2016, both firms have been re-engaged and ramp up of development of the SPORT Surgical System has commenced.

Accordingly, an estimate of the timing and costs for all of the development milestones beyond 2016 would be highly speculative at this time. The Company does estimate that a minimum of an additional US\$65 million will be required beyond the second half of 2017 in order to reach final CE Mark audit and submission of the 510(K) application to the FDA and the actual costs may be greater than US\$65 million. However, given the uncertainty of, among other things, regulatory requirements (including recent changes to the requirements of the FDA), the timing and number of future optimization trials (including cadaver studies) required, and the timing for the resumption of development work on the SPORT Surgical System, actual costs and development times may exceed management's current expectations and an estimate of the future costs of the regulatory phases and development milestones beyond 2016 and the first half of 2017 is not possible at this time.

The Company's current plan is to raise sufficient financing and to resume and continue the development and commercialization of the SPORT Surgical System at estimated incremental costs, and according to the timeline, as set forth in the table on page 12.

The Company's development and commercialization efforts have been based on "voice of customer" feedback, consultations with external medical technology development firms and the 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 to the end of 2016 and the first half of 2017 related to the commercialization and regulatory clearance 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 September 30, 2016, are set out below.

<i>Development Milestones</i>	<i>Estimated Cost (in U.S. million \$)</i>	<i>Schedule Milestone Completion for</i>	<i>Comments</i>
<b>Units built and ready for engineering verification</b> (Prototype is formally tested to meet previously defined specifications)			
Build 2 engineering verification units	-	Q4 2015	<i>Completed</i>
Build Extended Engineering Verification, EEV, units	-	Q1 2016	<i>Completed</i>
Initiate Human Factors and Usability Trials	-	Q2 2016	<i>Completed</i>
<b>Complete Human Factors and Usability Trials</b>			
Complete EV5 <sup>(2)</sup>	1.98	2 <sup>nd</sup> Half 2016	
Complete 2 usability modules	1.96	2 <sup>nd</sup> Half 2016	
Completion of initial Formative Usability Studies	3.92	2 <sup>nd</sup> Half 2016	
Create and refine software for core system functionality	5.39	1 <sup>st</sup> Half 2017	
Build of EV6 <sup>(2)</sup>	2.92	1 <sup>st</sup> Half 2017	
Optimization trials	-	TBD <sup>(1)</sup>	
Design Freeze	-	TBD <sup>(1)</sup>	
Build Design verification units	-	TBD <sup>(1)</sup>	
Initial Audit for CE Mark	-	TBD <sup>(1)</sup>	
Complete Design Verification and Validation	-	TBD <sup>(1)</sup>	
Final CE Mark Audit	-	TBD <sup>(1)</sup>	
Submit 510(K) Application to FDA	-	TBD <sup>(1)</sup>	
<b>TOTAL</b>	<b>TBD<sup>(1)</sup></b>		

**Notes:**

- (1) The schedule for milestone completion cannot be estimated at this time pending return to full development by our principal development and manufacturing firms.
- (2) EV5 and EV6 are engineering verification units of the SPORT Surgical System.

Upon completion of the development of the SPORT Surgical System and following receipt of applicable regulatory clearances in North America, Europe, and/or Asia, the Company intends to utilize a direct sales force, distribution partner(s) or a combination thereof to initiate marketing of 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 research, development and commercialization of the 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 cooperation and ability of development and manufacturing firms engaged by the Company to complete work assigned to them. The total costs presented in the table above to undertake the research, development and commercialization of the Company's SPORT Surgical System as referenced above are only estimates based on current information available to the Company and cannot yet be determined with a high degree of certainty. Actual costs may be substantially higher than those estimated. Costs beyond the first half of 2017 remain to be determined.

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***

### ***Offerings During Q3 2016***

On September 20, 2016 Titan completed an offering of securities pursuant to an agency agreement dated September 13, 2016 between the Company and Bloom Burton & Co. Limited and Echelon Wealth Partners Inc. (the "Agents"). The Company sold 17,083,333 units under the Offering at a price of CDN \$0.60 per Unit for gross proceeds of \$7,749,000 (\$6,979,014 net of closing costs including cash commission of \$528,668 paid in accordance with the terms of the agency agreement). Each unit comprised of one common share of the Company and one warrant. Each whole warrant entitles its holder to purchase one additional common share of Titan for CDN \$0.75 and will expire September 20, 2021. The warrants were valued at \$1,162,350 using a comparable warrant quoted in an active market, adjusted for differences in the terms of warrant and the balance of \$6,586,650 was allocated to common shares.

Pursuant to the agency agreement, in addition to the cash commission paid to Bloom Burton, the Company issued 1,165,494 broker warrants to Bloom Burton. Each broker warrant entitles the holder thereof to acquire one common share of the Company at the price of CDN\$0.60 and expires September 20, 2018.

On October 27, 2016, the Agents exercised the over-allotment option granted by the Company in connection with the September 20, 2016 offering and the Company sold an additional 2,030,000 Units at the offering price of CDN \$0.60 per Unit for additional gross proceed of \$913,500 (\$848,575 net of closing costs including commission of \$63,945 paid in accordance with the terms of the agency agreement). Each Unit comprised one common share of the Company and

one warrant. Each whole warrant entitles its holder to purchase one additional common share of the Company for CDN \$0.75 and will expire September 20, 2021. The warrants were valued at \$122,774 using a comparable warrant quoted in an active market, adjusted for differences in the terms of warrants and the balance of \$790,726 was allocated to common shares.

In addition to the cash commission paid to the Agents, the Company issued 142,100 broker warrants to the Agents. Each broker warrant entitles the holder thereof to acquire one common share of the Company at the price of CDN \$0.60 and expires October 27, 2018.

### ***Offerings During Q1 2016***

On February 12, 2016 Titan completed an offering of securities 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 offering at a price of CDN\$0.90 per unit for gross proceeds of approximately \$7,592,101 (\$6,844,746 net of closing costs including cash commission of \$516,622 paid in accordance with the terms of the agency agreement). Each unit consists of one common share of the Company and one common share purchase warrant. Each whole warrant entitles the holder thereof to acquire one common share of the Company at an exercise price of CDN\$1.00 and expires February 12, 2021. The warrants were valued at \$1,518,420 using a comparable warrant quoted in an active market, adjusted for differences in the terms of warrant and the balance of \$6,073,680 was allocated to common shares.

On February 23, 2016 the over-allotment option in connection with the Company's February 12, 2016 offering of 11,670,818 units 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 \$1,139,937 (\$1,029,710 net of closing costs including cash commission of \$79,796 paid in accordance with the terms of the agency agreement). The warrants were valued at \$215,321 using a comparable warrant quoted in an active market, adjusted for differences in the terms of warrant and the balance of \$924,616 was allocated to common shares.

Pursuant to the agency agreement, in addition to the cash commission paid to Bloom Burton, the Company issued 916,443 broker warrants to Bloom Burton. Each broker warrant entitles the holder thereof to acquire one unit of the Company at the price of CDN\$0.90 and expires February 23, 2018.

On March 31, 2016 Titan completed an offering of securities pursuant to an agency agreement dated March 24, 2016 between the Company and Bloom Burton. The Company sold 15,054,940 units under the offering price of CDN\$1.00 per unit for gross proceeds of approximately \$11,607,359 (\$10,448,982 net of closing costs including cash commission of \$796,324 paid in accordance with the terms of the agency agreement). Each unit comprises one common share of Titan and one warrant. Each whole warrant entitles its holder to purchase one additional common share of Titan for CDN\$1.20 and will expire March 31, 2021. The warrants were valued at \$1,741,104 using a comparable warrant quoted in an active market, adjusted for differences in the terms of warrant and the balance of \$9,866,255 was allocated to common shares.

Pursuant to the agency agreement, in addition to the cash commission paid to Bloom Burton, the Company issued 1,032,845 broker warrants to Bloom Burton. Each broker warrant entitles the

holder thereof to acquire one unit of the Company at the price of CDN\$1.00 and expires March 31, 2018. Each unit consist of one common share of the Company and one common share purchase warrant. Each purchase warrant entitles the holder thereof to acquire one common share of the Company at an exercise price of CDN\$1.20 and expires March 31, 2021.

On April 14, 2016 the over-allotment option to the Company's March 31, 2016 offering was exercised in full and the Company sold an additional 2,258,241 units at the offering price for additional gross proceeds of \$1,759,396 (\$1,633,407 net of closing costs including commission of \$123,158 paid in accordance with the terms of the agency agreement). The warrants were valued at \$290,300 based on the market value at the time and the balance of \$1,469,096 was allocated to common shares.

Pursuant to the agency agreement, in addition to the cash commission paid to Bloom Burton, the Company issued 158,076 broker warrants to Bloom Burton. Each broker warrant entitles the holder thereof to acquire one unit of the Company at the price of CDN\$1.00 and expires April 14, 2018. Each unit consists of one common share of the Company and one common share purchase warrant. Each purchase warrant entitles the holder thereof to acquire one common share of the Company at an exercise price of CDN\$1.20 which expire April 14, 2021.

### ***Offerings During 2015***

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 offering consisted of 8,130,081 units and full over-allotment 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 \$8,611,901 (\$7,629,360 net of closing costs including cash commission of \$586,660 paid in accordance with the terms of the agency agreement). Each unit comprised one common share and 0.75 of a common share purchase warrant. Each whole warrant entitles its holder to purchase one additional Common Share for CDN\$1.60 and will expire November 16, 2020. The warrants were valued at \$770,177 using a comparable warrant quoted in an active market, adjusted for differences in the terms of warrant and the balance of \$7,841,724 was allocated to common shares.

On October 30, 2015, the Company entered into a letter agreement with Longtai Medical Inc. ("Longtai"). Under the terms of the letter agreement, on November 23, 2015, Longtai subscribed for and purchased \$4,000,000 worth of common shares under a private placement, at a subscription price of CDN \$1.23 per common share. In the letter agreement, the Company granted to Longtai exclusive rights to negotiate with the Company for an exclusive marketing, sales and distribution agreement for the Company's SPORT Surgical System in the Asia Pacific region (the "Distributorship Agreement") for a period of 183 days commencing at closing of the private placement. Additionally, Longtai paid to the Company US \$2,000,000 as a deposit toward the Distributorship Agreement ("Distributorship Deposit"), which would be repaid to Longtai in the event that the Distributorship Agreement is not entered into within such 183 day period. Under the letter agreement, Longtai has also agreed that, with the signing of the Distributorship Agreement, it shall subscribe for and purchase an additional \$4,000,000 worth of common shares at a subscription price equal to the 5-day volume weighted average price of the common shares on the TSX (less a 12.5% discount). If the Distributorship Agreement is executed and the second \$4,000,000 private placement is completed, the Company shall retain \$1,400,000 of the Distributorship Deposit and repay \$600,000 to Longtai. There can be no

assurance that the parties will be able to negotiate and enter into a Distributorship Agreement or that the parties will complete the additional \$4,000,000 private placement. Subsequently, the Company and Longtai agreed to extend the exclusive rights granted to Longtai to negotiate the Distributorship Agreement to August 19, 2016. Because the Distributorship Agreement was not executed by such date, the parties agreed to conduct monthly reviews of the progress of negotiations toward a Distributorship Agreement and in the event that a party, after such consultation, reasonably believes that the negotiation will not culminate in the Distribution Agreement being executed, such party may terminate the letter agreement upon 30 days written notice. In the event of a termination of letter agreement, the Distributorship Deposit shall be repaid to Longtai.

### ***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 unaudited condensed interim financial statements for the three and nine months ended September 30, 2016 and 2015, 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 MD&A:

<b>Type of Securities</b>	<b>Number of common shares issued or issuable upon conversion</b>
Common shares	166,511,446
Stock options <sup>(1)</sup>	7,281,935
Warrants	86,587,020
Broker warrants <sup>(2)</sup>	3,414,958

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 Unaudited Condensed Interim Financial Statements for terms of such options.

- (2) 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 at an exercise price of CDN\$1.00 for a period of 60 months from the date of closing.

Pursuant to the agency agreement in respect of the March 2016 offering, in addition to the cash commission paid to the Agents, 1,190,921 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 \$1.00 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 at an exercise price of CDN \$1.20 per share for a period of 60 months from the date of closing.

Pursuant to the agency agreement in respect of the September 2016 offering, in addition to the cash commission paid to the agents, 1,307,594 broker warrants were issued to the agents. Each broker warrant entitles the holder thereof to acquire one common share of the Company at the price of CDN \$0.60 for a period of 24 months following the closing date.

A total of 916,443, 1,190,921, and 1,307,594 broker warrants were issued in connection with the February 2016 offering, March 2016 and September 2016 offering, respectively. As of the date hereof, all broker warrants remain outstanding.

## ***Accounting Policies***

The accounting policies set out in the notes to the unaudited condensed interim financial statements have been applied in preparing the unaudited condensed interim financial statements for the three and nine months ended September 30, 2016, and the comparative information presented in the unaudited condensed interim financial statements for the three and nine months ended September 30, 2015.

The preparation of financial statements in conformity with IAS 34 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, (a) the measurement of stock based compensation and (b) the fair value estimate of the initial measurement of new warrant liabilities. While management believes that the estimates and assumptions are reasonable, actual results may differ.

### ***(a) Stock Options***

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.

### ***(b) Warrant Liability***

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 and subsequent changes in fair value are recorded through Net and Comprehensive Loss for the period. The accounting guidance for fair value measurements prioritizes the inputs used in measuring fair value into the following hierarchy:

**Level 1** – Quoted prices (unadjusted) in active markets for identical assets or liabilities;

**Level 2** – Inputs other than quoted prices included within Level 1 that are directly or indirectly observable;

**Level 3** – Unobservable inputs in which little or no market activity exists, therefore requiring an entity to develop its own assumptions about the assumptions that market participants would use in pricing.

The fair value of our Warrant liability is initially based on level 2 (significant observable inputs) and at September 30, 2016 is based on level 1, quoted prices (unadjusted) in an active market



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

During the three and nine months ended September 30, 2016, 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.

On June 8, 2015, the Company entered into an option agreement with Platform Imaging, LLC (“Platform”) whereby Platform granted the Company an option to negotiate a license agreement to have exclusive rights to practice the inventions set forth in patents and patent applications for Markerless Tracking of Robotic Surgical Tools for potential incorporation in the SPORT Surgical System and to distribute such product thereafter. Under the terms of the option agreement, the Company must pay to Platform a non-refundable option fee of \$300,000 as follows: (i) \$100,000 upon signing the 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 for the rights under the license agreement, payable upon execution of a license agreement.

A former senior officer of Titan was also a co-founder, significant shareholder, a director and a member of the senior management team of Platform, as well as the co-inventor of the developed technology.

During the period, an individual related to a former senior executive, provided consulting services in support of marketing efforts for the European market. Monthly compensation of \$12,360 plus reimbursement of appropriate expenses was paid to the individual.

### ***Financial Instruments***

The Company’s financial instruments consist of cash and cash equivalents, 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 term maturities of these instruments or the discount rate applied.

### ***Outlook***

Titan continues to focus its efforts on the research and development of the SPORT Surgical System and is continuing to 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 the SPORT Surgical System. On December 21, 2015, the Company announced that it had completed the build of the initial SPORT Surgical System to include both work station and patient cart. These units will undergo extensive testing as a part of engineering verification. 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 is developing its Quality Management System in preparation for the audits leading to obtaining the CE Mark and FDA clearances. 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 the Company's 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.

Both the principal development firm and the principal manufacturing company engaged by the Company had previously decided to temporarily suspend development work on the SPORT Surgical System until such time that the Company had received sufficient financing to cover current work and future work orders projected over a six-month period. Subsequent to the Company's most recent capital raise, which closed September 20, 2016, both firms have resumed work on the development of the SPORT Surgical System.

Effective October 4, 2016, John Hargrove resigned as the Chief Executive Officer of the Company and Martin Bernholtz, Interim Chairman of the Company was appointed Chairman of the Company and John Barker was appointed Interim Chief Executive Officer of the Company. John Barker's primary objective, as Interim Chief Executive Officer, is to identify and recommend to the Board, an individual to be hired as the permanent Chief Executive Officer. A search firm has been retained to assist with regard to the recruitment process.

Over the next twelve months, the Company plans to raise financing and to continue the development and commercialization of the SPORT Surgical System.

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).