Titan Medical Inc.

Management's Discussion and Analysis

FOR THE YEAR ENDED DECEMBER 31, 2012

This Management's Discussion and Analysis ("MD&A") is dated February 19, 2013.

This Management's Discussion and Analysis 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, 2012 (and the notes thereto) ("Financial Statements"). The Financial Statements have been prepared in accordance with International Financial Reporting Standards (IFRS). The Company's reporting currency is Canadian dollars.

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.

Internal Control over Financial Reporting

During the year ended December 31, 2012, 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 Management's Discussion and Analysis. Forward-looking statements are frequently, but not always, identified by words such as "expects", "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 continues to actively explore in-licensing opportunities for technologies that may be used in conjunction with the Amadeus™ Surgical System; over the course of the next twelve to eighteen months, Titan's objectives include advancing the development of the single-site platform, and in particular, completing feasibility testing and commencing work on a functional prototype for testing, and following this with the completion of a clinical/commercial prototype, human clinical trials and regulatory submissions; Titan will continue work on the multi-port platform to further develop and refine the functionality of the platform and to identify and contract with a manufacturing partner to transfer the components to manufactured units in anticipation of engineering verification and clinical trials; Titan will continue its pursuit of key strategic relationships, carrying on efforts to secure its intellectual property through patent and licensing process, the continued development of the Amadeus™ Surgical System and the raising of equity capital. 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, limited history of earnings, stock price volatility and the risks and uncertainties discussed under the "Risk Factors" section in our most recent annual information form, which section is expressly incorporated by reference into this 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

Titan Medical Inc. is the successor corporation formed pursuant to two separate amalgamations (the "Amalgamations") under the *Business Corporations Act* (Ontario) on July 28, 2008: (i) Synergist Medical Inc. ("Synergist") amalgamated with Titan Medical Inc. (formerly, 2174656 Ontario Limited), then a wholly owned subsidiary of KAM Capital Corp. ("KAM"), to form a new corporation called Titan Medical Inc. ("Amalco"); and (ii) the amalgamation of Amalco with KAM to form Titan Medical Inc.

The Amalgamations constituted the Qualifying Transaction of KAM under the policies of the TSX Venture Exchange and satisfied the requirement to complete a Going Public Event as such term was defined in debentures previously issued by Synergist.

Titan's business consists of the continued development of the Amadeus™ Surgical System, a "next generation" surgical robotic platform, as described in more detail below.

The Company continues the business of Synergist which was incorporated in 2002 and which commenced business in May 2006. The Company is committed to developing the Amadeus™ Surgical System with the objective of substantially improving upon keyhole or minimally invasive surgery (surgery without large incisions). From inception, the Company has been focusing on its research and development activities and building its intellectual property portfolio, trade secrets and scientific and technical knowledge base.

The Company's head office and registered office is located in Toronto, Ontario.

Overall Performance

The Company is a development stage company engaged in the design and development of a robotic surgical system for application in minimally invasive surgery ("MIS"). The Amadeus™ Surgical System, currently under development, comprises a surgeon-controlled robotic platform that includes a 3D vision system and interactive instruments for performing MIS procedures, and a surgeon workstation that provides the surgeon with an interface to the robotic platform for controlling the interactive instruments and providing a 3D endoscopic view of inside a patient's body during MIS procedures. The Amadeus™ system includes a single-site platform and a multi-port platform, having the objective of performing complex procedures directed by a surgical team. The Amadeus™ system is being designed to expand robotic surgery into areas of surgical specialities and simple and complex procedures that are currently under-serviced, and to allow surgeons to perform procedures within small to medium size surgical spaces such as general surgery and cholecystectomy.

The Company has completed prototypes of components of the Amadeus™ Surgical System which embody innovations toward the targeted capability of robotic surgery, including: (i) a high resolution and colour fidelity 3D vision system allowing rapid interpretation of anatomy; (ii) a hand controller with force feedback, providing real-time force information for control of the system; and (iii) instruments with increased degrees of freedom of movement. The Company has completed early prototypes of a multi-port platform, a vision system control tower and a surgeon work station that enables control of the multi-port platform and provides a surgical simulator.

In addition to the in-house development of robotic surgical technologies, the Company also actively explores in-licensing opportunities for technologies that may be used in conjunction with the Amadeus™ Surgical System. In the first quarter of 2012, the Company announced that it had entered into an exclusive license agreement with Columbia University for a single-site robotic surgical system for use in single-site surgery. The Company has exclusive license rights for the development and commercialization of the licensed technology.

Following the licensing of the robotic surgical technology from Columbia University, the Company commenced development of the single-port platform as part of the Amadeus™ Surgical System. The single-site platform is being developed with the goal of providing interactive instruments and a 3D vision system capable of being inserted into the patient's body cavity through a single incision. The design contemplates a collapsible device that, when collapsed, would be capable of being inserted into the patient's body cavity through a skin incision of approximately 15mm to 25mm. Once inserted, the device would be deployable into a working configuration whereby the 3D vision system and interactive instruments would be capable of being controlled by the surgeon at the workstation.

The Company continues to evaluate technologies being developed for intellectual property protection through a combination of trade secrets and patent applications. As of December 31, 2012, the Company has ownership of six U.S. patents and eleven patent applications filed in the U.S. or under the Patent Cooperation Treaty (PCT). Additionally, the Company holds exclusive rights to four patent applications presently pending before patent offices in the U.S., Canada or Europe, including applications covering aspects of the Company's single-site platform.

Although the Company had previously disclosed its plan to file twelve patent applications in 2012, the Company experienced a reduction in the number of patent applications filed in 2012. The Company anticipates continued expansion of its patent portfolio by filing patent

applications with various patent offices as new technologies pertaining to the multi-port and single-site surgical platforms are refined and developed. The Company also continues to seek suitable in-licensing opportunities to expand its intellectual property portfolio.

Previously the Company had disclosed that it anticipated the commencement of cadaver and animal studies during the first half of 2013. Working closely with an external engineering and technology resource, the Company has revised its development schedule and accordingly, now anticipates commencing cadaver and animal studies during the second half of 2013.

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

Among other things, the future success of the Company is substantially dependent on a continued research and development program. In addition to being capital intensive, research and development activities relating to sophisticated technologies that the Company develops are inherently uncertain as to future success and the achievement of a desired result. If delays or problems occur during the Company's ongoing research and development process, 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.

Operations

The Company develops its core technologies through a combination of in-house personnel and selected engineering and technology partners developing components of the Amadeus™ Surgical System to the Company's specifications. Currently, the Company has its components completed through purchase orders and does not have long-term development contracts with any third party engineering and technology partners.

The Company is primarily focused on the research and development of the single-site platform based on the technology licensed from Columbia University. The Company has developed a project plan for the single-site platform that is progressing at a rate consistent with satisfying the Development Milestones set out elsewhere in this document. To December 31, 2012, the Company has spent CDN $1,920,862 (USD $1,930,709) towards the development of the single-site platform. The Company is satisfied that this is in line with its Development Milestones.

Selected Annual Information

The following table summarizes selected financial data reported by the Company for the years ended December 31, 2012, 2011 and 2010. The information set forth should be read in conjunction with the respective audited financial statements. The net and comprehensive loss from operations for the year 2010 has been adjusted to reflect the transition to IFRS.

	2012 (IFRS)	2011 (IFRS)	2010 (IFRS)
Net sales	-	-	-
Net and comprehensive loss for the year	$7,757,244	$16,127,529	$3,761,058
Basic & diluted loss per share	$0.12	$0.30	$0.09
Total long term liabilities	-	-	-
Total assets	$5,721,131	$11,350,395	$9,958,278
Dividends	-	-	-

Significant changes in key financial data from 2010 to 2012 can be attributed to the availability of added funding and resulting development of the Amadeus™ Surgical System. In 2010 development expenditures continued as Titan completed a private placement offering on December 23, 2009, resulting in the issuance of 5,822,000 units for net proceeds of $1,991,323. Throughout 2010 and 2011 the Company further developed the Amadeus™ Surgical System, hired additional employees and secured new premises in support of the Amadeus™ Surgical System's related product development. This continued growth was possible as a result of successful financings completed on December 10, 2010, June 21, 2011 and December 22, 2011. In 2012 development emphasis shifted to the single site platform. In addition a further financing was completed on March 8, 2012. See "Financings" for additional details of equity financings completed by the Company during the last three fiscal years.

Discussion of Operations

The Company incurred a net loss of $7,757,244 during the year ended December 31, 2012, compared with a net loss of $16,127,529 for the year ended December 31, 2011. The reduction in expenditures for the year ended December 31, 2012 compared to the year ended December 31, 2011 reflects the Company's shift from a focus on ongoing extensive development of the multi-port platform, which currently exists as a prototype, to a focus on the development of the single-site platform.

During the year ended December 31, 2012, corporate expenditures were related to furthering the pursuit of key strategic relationships, carrying on efforts to secure its intellectual property through the patent and licensing process, and continuing the development of the Amadeus™ Surgical System. As of December 31, 2012, the Company has ownership of six patents issued in the U.S. and eleven patent applications filed in the U.S. or under the PCT. The Company also has exclusive rights to four patent applications pending before patent offices in the U.S., Canada or Europe.

Research and development expenditures (all of which were expensed in the periods) for the years ended December 31, 2012 and December 31, 2011, were as follows:

Research and Development Expenditures	**Year Ended December 31, 2012**	**Year Ended December 31, 2011**
Intellectual property development	$2,597	$9,359
License and royalties	96,327	41,275
Product development	4,839,315	12,701,057
	$4,938,239	$12,751,691
SR&ED tax credits received	(300,000)	(257,963)
Total	$4,638,239	$12,493,728

The reduced research and development expenditures in the year ended December 31, 2012, over the same period in 2011 reflects the completion and transition of one development cycle including the development and evaluation of the surgeon workstation, tower and patient cart to the commencement of a subsequent development cycle involving the development of a prototype for use in animal and cadaver studies. The increase in license and royalty payments is a result of the Company's ongoing efforts to obtain in-licensing agreements for technologies in support of the Amadeus™ Surgical System.

General and administrative expenses for the year ended December 31, 2012 amounted to $3,205,809, compared to $3,728,868, for the comparable period in 2011. The decrease in the year ended December 31, 2012 over the same period in 2011 is attributed primarily to a decrease in management and administrative salaries and related costs, stock based compensation, reduced travel costs, office and general expenses, marketing and investor relations, consulting and professional fees.

Stock-based compensation expense for the years ended December 31, 2012 and 2011 was $334,725, and $513,323, respectively.

Titan realized $86,804 of interest income in the year ended December 31, 2012 and $95,067 in the year ended December 31, 2011.

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, 2012	**Three Months Ended September 30, 2012**	**Three Months Ended June 30, 2012**	**Three Months Ended March 31, 2012**	**Three Months Ended December 31, 2011**	**Three Months Ended September 30, 2011**	**Three Months Ended June 30, 2011**	**Three Months Ended March 31, 2011**
Net sales	-	-	-	-	-	-	-	-
Net and comprehensive loss/(income) from operations	$1,864,102	$1,112,378	$1,453,230	$3,327,534	$5,159,540	$6,067,576	$2,788,368	$2,112,045
Basic and diluted loss/(income) per share	$0.03	$0.01	$0.02	$0.06	$0.10	$0.11	$0.05	$0.04

Significant changes in key financial data from the three months ended March 31, 2011, to the three months ended December 31, 2012 reflects the completion of one development cycle including the development and evaluation of the multi-port surgeon workstation, tower and patient cart to the commencement of a subsequent development cycle involving the development of a single-site prototype for use in animal and cadaver studies. See "Operations" for update on achievement of Development Milestones.

The increase in Net and Comprehensive Loss from Operations for the three months ended December 31, 2012 represents the Company's ongoing development of a single-site platform.

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, as well as upon 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 $4,617,016 of cash and cash equivalents on hand and accounts payable and accrued liabilities of $1,098,658 at December 31, 2012, compared to $9,738,822 and $2,007,265, respectively, at December 31, 2011. Titan's working capital as at December 31, 2012 was $4,085,555, compared to $8,781,410, at December 31, 2011.

Titan believes that it has sufficient resources available to continue development of the Amadeus™ system until such time as the next financing occurs. If the next financing is delayed, the Company is in a position whereby it can and will scale back the development of the Amadeus™ system without significantly jeopardizing the 2015 date for commercial product launch. Should development be scaled back, the Company is confident that it has the ability to ramp up development sufficiently to make up for any development time that may have been lost due to a delay in financing.

Development Objectives

The Company undertakes its research and development in conjunction with its engineering and technology partners. A combination of internal resources and external development partners are being used to execute the development plan for the Amadeus™ system.

The Company plans to focus on the development and commercialization of the Amadeus™ system at an estimated incremental cost of approximately $45 million as set out in its Short Form Base Shelf Prospectus dated October 15, 2012. Upon completion of the Amadeus™ system development, the Company intends to initiate marketing to hospitals with a direct sales force and/or marketing and distribution partner(s) following receipt of all applicable regulatory approvals in the United States, Europe and Asia.

The principal milestones in the development of the Amadeus™ system are summarized below:

Development Milestone	*Estimated Cost*	*Anticipated Schedule*
Functional Prototype for Testing	$6.0 million	Q2 and Q3 2013
Completion of Clinical/Commercial Prototype	$6.0 million	Q4 2013
Human Clinical Trials and Regulatory Submissions	$11.0 million	Q3 and Q4 2014
Manufacturing	$9.0 million	Q4 2014
Commercial Product Launch	$13.0 million	2015

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, funds or resources that may be required. The Company expects that additional specific milestones will be identified as the development of the Amadeus™ system progresses. It should also be noted that only a portion of the funds for the Amadeus™ system development are in place and allocated at present. The total costs to complete the Amadeus™ system development 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 they may be substantially higher than estimated.

Financings

On June 21, 2011, Titan completed an offering of securities pursuant to an agency agreement with a Canadian investment dealer (the "June Agent"). The offering consisted of 5,577,500 units (the "June Units") at a price of $1.65 each for gross proceeds of $9,202,875 ($8,286,068 net of closing costs including 7% cash commission of $644,201 paid in accordance with the terms of the agency agreement). Each unit comprised one common share of Titan and one warrant. Each warrant entitles its holder to purchase one additional common share of Titan for $2.00 and expires on June 21, 2016. The warrants were valued at $2,175,225 using a proportionate fair value method and the balance of $7,027,650 was allocated to common shares.

The 5,577,500 warrants issued as part of the offering were listed and commenced trading on the TSX Venture Exchange on August 2, 2011. The warrants, designated as June 2016 warrants, trade under the symbol "TMD.WT.A".

On December 22, 2011, Titan completed an offering of securities pursuant to an agency agreement with a Canadian investment dealer (the "December Agent"). The offering consisted of 4,880,000 units (the "December Units") at a price of $1.55 each for gross proceeds of $7,564,000 ($6,703,575 net of closing costs including 7% cash commission of $529,480 paid in accordance with the terms of the agency agreement). Each unit comprised one common share of Titan and one warrant. Each warrant entitles its holder to purchase one additional common share of Titan for $1.75 and expires on December 22, 2016. The warrants were valued at $1,952,000 using a proportionate fair value method and the balance of $5,612,000 was allocated to common shares.

The 4,880,000 warrants issued as part of the offering were listed and commenced trading on the TSX Venture Exchange on January 24, 2012. The warrants, designated as December 2016 warrants, trade under the symbol "TMD.WT.B".

On March 8, 2012, the Company completed an offering of securities pursuant to an agency agreement with a Canadian investment dealer (the "March Agent"). The offering consisted of 1,986,755 units (the "March Units") at a price of $1.51 each for gross proceeds of $3,000,000 ($2,555,032 net of closing costs including a 7% cash commission of $210,000 paid in accordance with the terms of the agency agreement). Each unit comprises one common share of the Company and one warrant of the Company. Each common share purchase warrant entitles the holder thereof to purchase one additional common share of the Company for $1.77 and expires on March 14, 2017. The warrants were valued at $615,894 using a proportionate fair value method and the balance of $2,384,106 was allocated to common shares.

On October 15, 2012, the Company received a receipt in respect of its short form base shelf prospectus from the securities regulatory authorities in each of the provinces of British Columbia, Alberta and Ontario. The short form base shelf prospectus relates to the offering for sale of common shares, warrants, units, preferred shares and debt securities for gross proceeds of up to an aggregate of CDN. $45,000,000 during the 25-month period that the prospectus remains effective.

Outlook

Over the course of the next twelve months, Titan's objectives revolve around meeting the Company's stated milestones. This will involve significantly advancing the Amadeus™ system, including the development of a functional prototype for testing plus the completion of a clinical/commercial prototype. At December 31, 2012, Titan is satisfied that the progress made to date is in line with meeting these milestones.

In addition, Titan will continue its pursuit of key strategic relationships, carrying on efforts to secure its intellectual property through the patent and licensing process, the continued development of the Amadeus™ Surgical System and the raising of equity capital.

Off-Balance Sheet Arrangements

Other than for leased premises occupied by the Company, and licensing agreements both of which are discussed in note 7 of the Audited Financial Statements for the year ended December 31, 2012 and 2011, 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	64,744,892
Stock options[(1)]	2,602,452
Warrants	17,444,255
Broker Warrants[(2)]	871,098

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 Financial Statements for terms of such options.

(2) Pursuant to the agency agreement in respect of June 21, 2011 offering, in addition to the cash commission paid to the agent for the Offering ("June Agent"), the Company issued compensation warrants to the June Agent which entitle the holder to purchase 390,425 units ("June Broker Units") of the Company at a price of $1.65 per unit, for a period of 24 months following the closing date of the offering. Each June Broker Unit comprises one common share of the Company and one warrant that entitles the holder to acquire one common share of the Company at a price of $2.00 prior to expiry five years from closing of the offering.

Pursuant to the agency agreement in respect of December 22, 2011 offering, in addition to the cash commission paid to the agent for the offering ("December Agent"), the Company issued compensation warrants to the December Agent which entitle the holder to purchase 341,600 units ("December Broker Units") of the Company at a price of $1.75 per unit, for a period of 24 months following the closing date of the offering. Each December Broker Unit comprises one common share of the Company and one warrant that entitles the holder to acquire one common share of the Company at a price of $1.75 prior to expiry five years from closing of the offering.

Pursuant to the agency agreement in respect of the March 8, 2012 offering, in addition to the cash commission paid to the agent for the offering ("March Agent"), the Company issued compensation warrants to the March Agent to purchase 139,073 common shares of the Company at a price of $1.77 per share for a period of 24 months following the closing date of the offering.

As at February 19, 2013, none of the broker warrants issued to any of the above agents have been exercised and all of the broker warrants remain outstanding.

Changes in 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, 2012, and the comparative information presented in the Audited Financial Statements for the year ended December 31, 2011.

Related Party Transactions

During the year ended December 31, 2012, 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.

Financial Instruments

The Company has designated its cash and cash equivalents and amounts receivable as loans and receivables, which are measured at amortized cost. Amounts receivable include HST recoverable and accrued interest. Accounts payable and accrued liabilities are classified as other financial liabilities, which are measured at amortized cost.