
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

Form 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of November, 2019.

Commission File Number: 001-38524

Titan Medical Inc.

(Exact Name of Registrant as Specified in Charter)

170 University Avenue, Suite 1000
Toronto, Ontario M5H 3B3
Canada
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F. Form 20-F Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Note: Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.

Exhibits 99.1, 99.2 and 101 on this Report on Form 6-K will be deemed to be incorporated by reference into the Registrant's Form F-3 registration statement filed on July 30, 2019 (File No. 333-232898)

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TITAN MEDICAL INC.
(Registrant)

Date: November 14, 2019

By: /s/ Stephen Randall
Name: Stephen Randall
Title: Chief Financial Officer

EXHIBIT INDEX

- 99.1 Unaudited Condensed Interim Financial Statements Three and Nine Months Ended September 30, 2019 and 2018
- 99.2 Management's Discussion and Analysis for the Three and Nine Months Ended September 30, 2019
- 99.3 Form 52-109F2 Certification of Interim Filings (CEO)
- 99.4 Form 52-109F2 Certification of Interim Filings (CFO)

XBRL

- 101.INS XBRL Instance
- 101.SCH XBRL Taxonomy Extension Schema
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase
- 101.DEF XBRL Taxonomy Extension Definition Linkbase
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TITAN MEDICAL INC.
Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018

(IN UNITED STATES DOLLARS)

TITAN MEDICAL INC.
Unaudited Condensed Interim Balance Sheets
As at September 30, 2019 and December 31, 2018
(In U.S. Dollars)

	Note	September 30, 2019	December 31, 2018
Assets			
Current Assets:			
Cash and cash equivalents		\$ 1,170,385	\$ 11,471,243
Amounts receivable		141,266	143,225
Deposits	7	2,328,959	8,541,630
Prepaid expense		587,390	586,581
Total Current Assets		\$ 4,228,000	\$ 20,742,679
Patent Rights	3	1,499,365	1,172,485
Total Assets		\$ 5,727,365	\$ 21,915,164
Liabilities			
Current Liabilities:			
Accounts payable and accrued liabilities	4	\$ 12,272,769	\$ 6,447,888
Warrant liability	2b, 5	10,349,504	11,250,167
Total Liabilities		\$ 22,622,273	\$ 17,698,055
Shareholders' Equity (Deficiency)			
Share Capital	6	\$ 192,305,956	\$ 170,502,394
Contributed Surplus		8,056,772	6,652,409
Deficit		(217,257,636)	(172,937,694)
Total Equity / (Deficiency)		\$ (16,894,908)	\$ 4,217,109
Total Liabilities and Equity / (Deficiency)		\$ 5,727,365	\$ 21,915,164

Commitments (Note 7)

Subsequent events (Note 10)

See notes to financial statements

Approved on behalf of the Board:

"signed"

Charles Federico
Chairman

"signed"

David McNally
President and CEO

TITAN MEDICAL INC.
Unaudited Condensed Interim Statement of Shareholders' Equity and Deficit
For the Periods Ended September 30, 2019 and 2018
(In U.S. Dollars)

	<u>Note</u>	<u>Share Capital Number</u>	<u>Amount</u>	<u>Contributed Surplus</u>	<u>Warrants</u>	<u>Deficit</u>	<u>Total Equity</u>
Balance – December 31, 2017		12,686,723	\$ 154,016,519	\$5,146,784	\$ 741,917	\$(150,298,422)	\$ 9,606,798
Issued pursuant to agency agreement		8,975,126	28,424,732	—	—	—	28,424,732
Warrant liability issued during the period			(11,509,338)				(11,509,338)
Share issue expense			(1,546,800)	—	—	—	(1,546,800)
Issued Other		7,500	66,234	—	—	—	66,234
Warrants exercised during the period		6,500	59,998	—	—	—	59,998
Warrants expired during the period		—	741,917	—	(741,917)	—	—
Stock based compensation		—	—	1,151,933	—	—	1,151,933
Net and Comprehensive loss		—	—	—	—	(14,228,570)	(14,228,570)
Balance – September 30, 2018		<u>21,675,849</u>	<u>\$ 170,253,262</u>	<u>\$6,298,717</u>	<u>\$ —</u>	<u>\$(164,526,992)</u>	<u>\$ 12,024,987</u>
Balance – December 31, 2018		21,675,849	\$ 170,502,394	\$6,652,409	\$ —	\$(172,937,694)	\$ 4,217,109
Issued pursuant to agency or common share purchase agreement	6a	10,873,044	16,717,131	—	—	—	16,717,131
Share issue expense			(1,915,612)	—	—	—	(1,915,612)
Warrants exercised during the period	6a	1,018,506	7,002,043	—	—	—	7,002,043
Stock based compensation	6b	—	—	1,404,363	—	—	1,404,363
Net and Comprehensive loss		—	—	—	—	(44,319,942)	(44,319,942)
Balance – September 30, 2019		<u>33,567,399</u>	<u>\$ 192,305,956</u>	<u>\$8,056,772</u>	<u>\$ —</u>	<u>\$(217,257,636)</u>	<u>\$(16,894,908)</u>

See notes to financial statements

TITAN MEDICAL INC.
Unaudited Condensed Interim Statement of Net and Comprehensive Loss
For the Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

	Note	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
Revenue:		—	—	—	—
Expenses:					
Amortization		\$ 7,300	\$ 20,766	\$ 5,371	\$ 22,485
Consulting fees		317,771	1,038,268	134,009	505,197
Stock based compensation	6b	412,956	1,404,364	428,528	1,151,933
Insurance		122,588	357,200	120,434	136,391
Management salaries and fees		394,978	1,793,444	622,910	2,062,909
Marketing and investor relations		72,922	281,598	55,395	226,393
Office and general		336,609	531,016	110,106	344,733
Professional fees		190,800	597,645	142,299	466,766
Rent		17,595	46,346	23,602	73,395
Research and Development		16,570,480	49,339,766	9,143,987	18,664,336
Travel		95,358	243,353	64,430	250,327
Foreign exchange (gain)/loss		(68,045)	(26,998)	286,152	(646,245)
		\$18,471,312	\$55,626,768	\$11,137,223	\$23,258,620
Finance Income (cost):					
Interest		\$ 19,314	\$ 113,532	\$ 93,894	\$ 176,877
Gain (Loss) on change in fair value of warrants	2b, 5	16,887,802	13,021,129	4,075,833	9,928,944
Warrant liability issue cost		—	(1,827,835)	(566,960)	(1,075,771)
		\$16,907,116	\$11,306,826	\$ 3,602,767	\$ 9,030,050
Net and Comprehensive Loss For The Period		\$ 1,564,196	\$44,319,942	\$ 7,534,456	\$14,228,570
Basic and Diluted Loss Per Share		\$ 0.05	\$ 1.54	\$ 0.41	\$ 0.95
Weighted Average Number of Common Shares					
Basic and Diluted		31,990,989	28,807,958	18,253,430	14,936,375
See notes to financial statements					

TITAN MEDICAL INC.
Unaudited Condensed Interim Statements of Cash Flows
For the Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

	<u>Three Months Ended Sept 30, 2019</u>	<u>Nine Months Ended Sept 30, 2019</u>	<u>Three Months Ended September 30, 2018</u>	<u>Nine Months Ended September 30, 2018</u>
Cash provided by (used in):				
Operating activities:				
Net loss for the period	\$ (1,564,196)	\$ (44,319,942)	\$ (7,534,456)	\$ (14,228,570)
Items not involving cash:				
Amortization	7,300	20,766	5,371	22,485
Stock based compensation	412,956	1,404,364	428,528	1,151,933
Other share compensation	—	—	—	66,234
Warrant liability-fair value adjustment	(16,887,802)	(13,021,129)	(4,075,833)	(9,928,944)
Warrant liability-foreign exchange adjustment	(70,394)	(33,769)	283,894	(651,762)
Changes in non-cash working capital items:				
Amounts receivable, prepaid expenses and deposits	6,497,151	6,213,821	(444,935)	(2,263,365)
Accounts payable and accrued liabilities	40,992	5,824,881	250,756	2,221,239
Cash used in operating activities	\$ (11,563,993)	\$ (43,911,008)	\$ (11,086,675)	\$ (23,610,750)
Financing activities:				
Net proceeds from issuance of common shares and warrants	2,582,885	33,957,796	18,051,242	26,908,982
Cash provided by financing activities	\$ 2,582,885	\$ 33,957,796	\$ 18,051,242	\$ 26,908,982
Investing Activities:				
Cost of Patents	(168,690)	(347,646)	(100,867)	(197,906)
Cash used in investing activities	\$ (168,690)	\$ (347,646)	\$ (100,867)	\$ (197,906)
Increase (Decrease) in cash and cash equivalents	(9,149,798)	(10,300,858)	6,863,700	3,100,326
Cash and cash equivalents, beginning of the period	10,320,183	11,471,243	22,367,119	26,130,493
Cash and cash equivalents, end of the period	<u>\$ 1,170,385</u>	<u>\$ 1,170,385</u>	<u>\$ 29,230,819</u>	<u>\$ 29,230,819</u>
Cash and cash equivalents comprise:				
Cash	\$ 499,637	\$ 499,637	\$ 261,935	\$ 261,935
Cash Equivalents	670,748	670,748	28,968,884	28,968,884
	<u>\$ 1,170,385</u>	<u>\$ 1,170,385</u>	<u>\$ 29,230,819</u>	<u>\$ 29,230,819</u>

See notes to financial statements

1. DESCRIPTION OF BUSINESS

Nature of Operations:

The Company's business continues to be in the research and development stage and is focused on the continued research and development of the next generation surgical robotic platform. In the near term, the Company will continue efforts to complete product development and proceed to pre-clinical and confirmatory human studies and satisfaction of appropriate regulatory requirements. Upon receipt of regulatory approvals, the Company will transition from the research and development stage to the commercialization stage. The completion of these latter stages will be subject to the Company receiving additional funding in the future.

The Company is incorporated in Ontario, Canada in accordance with the Business Corporations Act. The address of the Company's corporate office and its principal place of business is Toronto, Canada.

Basis of Preparation:

(a) Statement of Compliance

These condensed interim financial statements for the three and nine months ending September 30, 2019 have been prepared in accordance with International Accounting Standard 34, Interim Financial Reporting ("IAS 34").

These condensed interim financial statements should be read in conjunction with the Company's 2018 annual financial statements which have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

The condensed interim financial statements have been prepared using accounting policies consistent with those used in the Company's 2018 annual financial statements as well as any amendments, revisions and new IFRS, which have been issued subsequently and are appropriate to the Company.

The condensed interim financial statements were authorized for issue by the Board of Directors on November 14, 2019.

(b) Basis of Measurement

These condensed interim financial statements have been prepared on the historical cost basis except for the revaluation of the warrant liability, which is measured at fair value.

(c) Functional and Presentation Currency

These condensed interim financial statements are presented in United States dollars ("U.S."), which is the Company's functional and presentation currency.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a) Use of Estimates and Judgements

The preparation of financial statements in conformity with IAS 34, Interim Financial Reporting 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 condensed interim financial statements and the reported amount of expenses during the year. Financial statement items subject to significant judgement include, the measurement of stock-based compensation and the fair value estimate of the initial measurement of new or modified warrant liabilities and the remeasurement of unlisted warrant liabilities. While management believes that the estimates and assumptions are reasonable, actual results may differ.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

These condensed interim financial statements have been prepared in accordance with accounting principles applicable to going concern, which contemplates that the Company will be able to realize its assets and settle its liabilities as they come due during the normal course of operations for the foreseeable future. The Company has shareholders' deficiency of \$217,257,636 and current losses of \$44,319,942. The Company currently does not generate any revenue (other than interest income on its cash balances) and accordingly it is primarily dependent upon equity financing for any additional funding required for development and operating expenses. The Company expects that approximately \$72 million in incremental funding is needed, to the end of 2020 to maintain its currently anticipated pace of development. If additional funding is not available, the pace of the Company's product development plan may be reduced. These conditions indicate a material uncertainty that may cast significant doubt on the ability of the Company to continue as a going concern if additional funding is not secured.

Fair Value

The Black-Scholes model used by the Company to determine fair values of stock options, warrants and broker warrants was developed for use in estimating the fair value of the stock options and warrants.

(b) Warrant Liability

Certain of the Company's warrants have exercise prices that are not fixed and as such in accordance with IAS 32, they must be recorded as a derivative financial liability. This applies both in the case where the Company's warrants are denominated in a currency (Canadian dollars) other than the Company's functional currency (U.S. dollars), and when a warrant is issued with a cashless exercise option. In each case, these warrants are initially measured at fair value and subsequent changes in fair value are recorded through Net and Comprehensive Loss for the year. At September 30, 2019, the Warrant Liability of listed warrants was adjusted to fair value measured at the market price of the listed warrants and the Warrant Liability of unlisted warrants was adjusted to fair value using the Black-Scholes formula. The Black-Scholes calculation for the unlisted warrants was determined initially using a comparable warrant quoted in an active market, adjusted for differences in the terms of the warrant. At March 31, 2019, it was determined that the comparable warrant was no longer an effective benchmark and the Company began to use the market price and volatility of the Company's common shares adjusted for differences in the terms of the warrant.

(c) Fair Value Measurement

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 the warrant liability relating to listed and unlisted warrants is initially based on level 2 significant observable inputs and at subsequent dates is adjusted using Level 1 inputs for listed warrants and level 2 inputs for unlisted warrants.

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

2. **SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES** (continued)

(d) Adoption of New Accounting Standard

IFRS 16 Leases

IFRS 16 Leases, superseded the requirements in IAS 17, IFRIC-15 and SIC-17. The new standard is effective for annual periods beginning on or after January 1, 2019. Since the Company is not currently party to a lease with a life of one year or longer, this standard has no effect on the current condensed interim financial statements for the three and nine months ended September 30, 2019. See Note 9 – Leases and Note 10 – Subsequent Events for details on the Company’s leases signed after September 30, 2019.

3. **PATENT RIGHTS**

<u>For the nine months ended September 30, 2019</u>	<u>Cost</u>	<u>Accumulated Amortization & Impairment Losses</u>	<u>Net Book Value</u>
Balance at December 31, 2018	\$1,398,713	\$ (226,228)	\$1,172,485
Additions during the period	347,646	—	347,646
Amortization in the period	—	(20,766)	(20,766)
Balance at September 30, 2019	<u>\$1,746,359</u>	<u>\$ (246,994)</u>	<u>\$1,499,365</u>

4. **ACCOUNTS PAYABLE AND ACCRUED LIABILITIES**

The balance of accounts payable and accrued liabilities at September 30, 2019 is \$12,272,769 (December 31, 2018 – \$6,447,888). The majority of the payables relate to amounts owed to the Company’s R&D suppliers amounting to \$11,005,538, for legal and insurance an amount of \$873,725 and the balance relating to regular business operations.

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

5. WARRANT LIABILITY

	Nine Months Ended September 30, 2019		Year Ended December 31, 2018	
	Number of Warrants	Amount	Number of Warrants	Amount
Opening Balance	13,901,859	\$ 11,250,167	4,933,231	\$ 17,849,460
Issue of warrants expiring, April 10, 2023	—	—	1,295,554	5,212,087
Issue of warrants expiring, August 10, 2023	—	—	7,679,574	6,297,251
Issue of warrants expiring, March 21, 2024	8,455,882	15,897,059	—	—
Warrants exercised during the period	(1,018,506)	(3,742,824)	(6,500)	(28,949)
Warrants expired during the period	(135,824)	—	—	—
Foreign exchange adjustment during the period	—	(33,769)	—	(984,462)
Fair value adjustment during the period	—	(13,021,129)	—	(17,095,220)
Ending Balance	21,203,411	\$ 10,349,504	13,901,859	\$ 11,250,167

6. SHARE CAPITAL

- a) **Authorized:** unlimited number of common shares, no par
Issued: 33,567,399 (December 31, 2018: 21,675,849)

Exercise prices of units, certain warrants and options are presented in Canadian currency when they are exercisable in Canadian dollars unless otherwise noted.

On August 29, 2019, the Company entered into a common share purchase agreement (the “Aspire Agreement”) with Aspire Capital Fund, LLC (“Aspire Capital”) whereby Aspire Capital committed to purchase up to \$35 million of common shares of Titan at Titan’s request from time to time, until February 28, 2022 (the “Aspire Transaction”). On commencement of the Aspire Agreement, Titan immediately sold to Aspire 1,777,325 (“Common Shares”), representing 5.3% of the Common Shares then issued and outstanding, at a price of US \$1.6879 per Common Share for gross proceeds of \$3.0 million and issued to Aspire Capital 639,837 Common Shares, representing 1.9% of the Common Shares then issued and outstanding as consideration for entering into the Aspire Agreement. Northland Securities, Inc. acted as the Company’s agent and financial advisor in connection with the offering and pursuant to an agency agreement, was paid a cash fee of \$160,000. The gross proceeds of \$3.0 million, net of costs and fees of \$417,113 has been included in capital in the three months ended September 30, 2019.

On March 21, 2019, Titan completed an offering of securities made pursuant to an agency agreement dated March 18, 2019 between the Company and Bloom Burton Securities Inc. (the “Agent”). The Company sold 8,455,882 Units under the Offering at a price of US \$3.40 per Unit for gross proceeds of approximately \$28,750,000 (\$25,426,744 net of closing cost including cash commission of \$2,012,500). Each Unit consisted of one Common Share of the Company and one Common Share purchase warrant, each warrant entitles the holder thereof to acquire one Common Share of the Company at an exercise price of US \$4.00 and expiring March 21, 2024. The warrants were valued at \$15,897,059 based on the value determined by the Black-Scholes model and the balance of \$12,852,941 was allocated to common shares.

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

6. SHARE CAPITAL (continued)

Pursuant to the agency agreement, in addition to the cash commission paid to the Agent, broker warrants were issued to the Agent which entitle the holder to purchase 591,911 Common Shares at a price of US \$3.40 per share prior to expiry on March 21, 2021. The broker warrants were valued using the Black-Scholes model and the value of \$864,190 was accounted for as an increase in the closing costs and allocated between the shares and the warrants.

During the quarter ended September 30, 2019 no warrants were exercised.

During the quarter ended March 31, 2019, 1,018,506 warrants were exercised for total proceeds of \$3,259,219. The fair value of the exercised warrants was \$3,742,824 which was reclassified from warrant liability to common stock.

On August 10, 2018 Titan Completed an offering of securities made pursuant to an agency agreement dated August 7, 2018 between the Company and Bloom Burton Securities Inc. (the "Agent"). The Company sold 7,679,574 Units under the Offering at a price of US \$2.50 per Unit for gross proceeds of approximately \$19,198,935 (\$17,464,711 net of closing cost including cash commission of \$1,343,925). Each Unit consisted of one Common Share of the Company and one Common Share purchase warrant, each warrant entitles the holder thereof to acquire one Common Share of the Company at an exercise price of US \$3.20 and expiring August 10, 2023. The warrants were valued at \$6,297,251 based on the value determined by the Black-Scholes model and the balance of \$12,901,684 was allocated to common shares.

Pursuant to the agency agreement, in addition to the cash commission paid to the Agent, broker warrants were issued to the Agent which entitle the holder to purchase 537,570 Common Shares at a price of US \$2.50 per share prior to expiry on August 10, 2020.

On June 19, 2018 a share consolidation of 30:1 was completed and the Company's outstanding common shares were adjusted from 419,888,250 to 13,996,275. All references to the common shares, warrants and stock options, prior to June 20, 2018, have been updated in the notes to reflect the 1:30 reverse stock split.

On April 10, 2018 Titan completed an offering of securities made pursuant to an agency agreement dated April 3, 2018 between the Company and Bloom Burton Securities Inc. The Company sold 1,126,664 Units under the Offering at a price of CDN \$9.00 per Unit for gross proceeds of approximately \$8,035,941 (\$7,211,320 net of closing costs including cash commission of \$562,516). Each Unit consisted of one Common Share of the Company and one Common Share purchase warrant, each warrant entitles the holder thereof to acquire one Common Share of the Company at an exercise price of CDN \$10.50 and expiring April 10, 2023. The warrants were valued at \$4,553,700 based on the value determined by the Black-Scholes model and the balance of \$3,482,241 was allocated to common shares.

Pursuant to the agency agreement, in addition to the cash commission paid to the Agent, broker warrants were issued to the Agent which entitle the holder to purchase 78,867 Common Shares at a price of CDN \$9.00 per share prior to expiry on April 10, 2020.

On May 10, 2018 Titan announced the completion of the over-allotment option granted to Bloom Burton Securities Inc. as agent for its offering at a price of CDN \$9.00 per Unit completed on April 10, 2018 was exercised and the Company sold an additional 168,888 Units at the offering price for additional gross proceeds of \$1,189,856 (\$1,100,238 net of closing costs including cash commission of \$76,988). Each Unit consisted of one Common Share of the Company and one Common Share purchase warrant, each warrant entitles the holder thereof to acquire one Common Share of the Company at an exercise price of CDN \$10.50 and expiring April 10, 2023. The warrants were valued at \$658,387 based on the value determined by the Black-Scholes model and the balance of \$531,469 was allocated to common shares.

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

6. SHARE CAPITAL (continued)

Pursuant to the agency agreement, in addition to the cash commission paid to the Agent, broker warrants were issued to the Agent which entitle the holder to purchase 10,928 Common Shares at a price of CDN \$9.00 per share prior to expiry on April 10, 2020.

b) Stock Options and Compensation Options

On May 29, 2019, the shareholders of Titan approved an increase of its reserve for options from 10% and set aside up to 15% of the issued and outstanding shares of Titan for granting of options to employees, officers, consultants and advisors. At September 30, 2019, 3,320,030 common shares (December 31, 2018: 1,241,803) were available for issue in accordance with the Company's stock option plan. The terms of these options are determined by the Board of Directors.

Options are issued to vest immediately or when used as a long-term incentive, are commonly issued over a vesting period of up to seven years. The expense related to options with a vesting period are recorded over the vesting period in accordance with the terms of the options. For the nine months ended September 30, 2019, \$1,404,364 of stock-compensation expense was recognized (September 30, 2018 – \$1,151,933).

On May 29, 2019, the shareholders approved amendments to the exercise prices of options previously granted to Executive Officers and Other Employees of the Company under the Option Plan. The Exercise price was amended to be US\$3.40 (CDN \$4.54), being the higher of the March 21, 2019 offering price of US\$3.40 and the five-day volume weighted average price as determined as of the close of business on May 28, 2019.

In accordance with IFRS 2, the options affected by the amendments were revalued just prior to the amendment and just after the amendment based on the values determined by the Black-Scholes model. The incremental value of CDN \$622,460 (US \$475,622) is to be recognized as stock based compensations with CDN \$382,390 (US \$292,184) recognized in the period ended June 30, 2019 and CDN \$240,070 (US\$183,437) to be amortized and recognized as stock-based compensation over the remaining vesting period in accordance with the vesting schedule of each particular option agreement.

The amended fair value of all affected share-based payment plans was measured based on the Black-Scholes formula. Expected volatility was estimated by considering historic average share price volatility. The weighted average inputs used in the measurement of fair values at the amendment date of the share-based option plan were as follows:

	May 29, 2019 before the amendments	May 29, 2019 after the amendments
Fair Value at grant	CDN \$0.01-\$1.40	CDN \$1.06-\$2.10
Share price at grant	CDN \$3.47	CDN \$3.47
Exercise price	CDN \$12.90-\$51.60	CDN \$4.54
Expected Volatility	98.6%-99.4%	98.6%-99.4%
Expected Option Life	1.0-3.5 years	1.0-3.5 years
Expected dividends	Nil	Nil
Risk free interest rate (based on government bonds)	1.48%-1.57%	1.48%-1.57%

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

6. SHARE CAPITAL (continued)

A summary of the status of the Company's outstanding stock options as of September 30, 2019 and December 31, 2018 and changes during the periods ended on those dates is presented in the following table:

	<u>Nine Months ended September 30, 2019¹</u>		<u>Year ended December 31, 2018¹</u>	
	<u>Number of Stock Options</u>	<u>Weighted average Exercise Price (CDN)</u>	<u>Number of Stock Options</u>	<u>Weighted average Exercise Price (CDN)</u>
Stock Options – CDN \$ denominated				
Balance Beginning	875,433	\$ 18.20	591,609	\$ 21.30
Granted	35,719	4.54	322,517	13.51
Expired/Forfeited	(50,115)	31.66	(38,693)	24.90
Balance Ending	<u>861,037</u>	<u>\$ 5.92</u>	<u>875,433</u>	<u>\$ 18.20</u>
	<u>Number of Stock Options</u>	<u>Weighted average Exercise Price (USD)</u>	<u>Number of Stock Options</u>	<u>Weighted average Exercise Price (USD)</u>
Stock Options – US \$ denominated				
Balance Beginning	50,349	\$ 1.55	—	—
Granted ²	843,693	2.72	50,349	\$ 1.55
Expired/Forfeited	(40,000)	3.72	—	—
Balance Ending	<u>854,042</u>	<u>\$ 2.65</u>	<u>50,349</u>	<u>\$ 1.55</u>

1. After giving consideration for 30:1 share consolidation effected June 2018.
2. Certain options granted in the period ending September 30, 2019 will vest in accordance with vesting schedules and milestones over a period up to 4 years.

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

6. **SHARE CAPITAL** (continued)

The weighted-average remaining contractual life and weighted-average exercise price of options outstanding and of options exercisable as at September 30, 2019 are as follows:

Canadian Dollar Denominated Options

<u>Exercise Price (CDN)</u>	<u>Number Outstanding</u>	<u>Weighted-average remaining contractual life (years)</u>	<u>Options Exercisable</u>
\$ 3.28	31,498	5.92	31,498
\$ 4.50	18,936	3.53	18,936
\$ 4.54	743,122	7.16	349,909
\$ 4.80	3,040	0.96	3,040
\$ 7.49	5,590	5.77	5,590
\$ 9.00	11,481	5.77	11,481
\$ 9.60	1,105	1.02	1,105
\$11.70	6,667	1.19	6,667
\$12.00	1,948	1.18	1,948
\$30.00	28,260	1.90	28,260
\$30.60	2,096	1.23	2,096
\$32.40	810	1.33	810
\$41.70	658	0.21	658
\$45.30	560	0.87	560
\$51.60	5,266	0.69	5,268
	861,037	4.37	467,826

US Dollar Denominated Options

<u>Exercise Price (USD)</u>	<u>Number Outstanding</u>	<u>Weighted-average remaining contractual life (years)</u>	<u>Options Exercisable</u>
\$1.55	50,349	2.22	50,349
\$2.20	469,420	6.79	2,165
\$3.40	294,273	6.62	197,273
\$3.72	40,000	2.95	—
	854,042	6.28	249,787
Total	1,715,079	5.32	717,613

The weighted average exercise price of Canadian dollar denominated options outstanding is CDN \$5.92 and CDN \$7.08 for options that are exercisable. The weighted average exercise price of US dollar denominated options outstanding is US \$2.65 and US \$3.02 for options that are exercisable.

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

6. SHARE CAPITAL (continued)

Options are granted to Directors, Officers, Employees and Consultants at various times. Options are to be settled by physical delivery of shares. Options and the terms of each issue over the nine months ended September 30, 2019 are outlined below.

Grant date/ Recipient	Number of Options	Vesting Conditions	Contractual Life of Options
February 14, 2019, options granted to a Consultant	40,000	Options may vest over a 15-month vesting schedule	3 years
May 29, 2019, options granted to a Director	253,000	Options vest over a specified vesting period not exceeding 4 years	7 years
June 28, 2019, options granted to an Employee	10,000	Options vest as to 1/3 of the total number of Options granted, every year from Option Date	7 years
July 18, 2019, options granted to a Director	25,719	Options vest immediately	7 years
July 19, 2019, options granted to a Director	41,273	Options vest immediately	7 years
July 19, 2019, options granted to an employee	467,255	Options vest as to 1/4 of the total number of Options granted, every year from Option Date	7 years
July 19, 2019, options granted to a Consultant	2,165	Options vest immediately	3 years
September 9, 2019, options granted to a Consultant	40,000	Options may vest over an 18-month vesting schedule based on success factors	3 years

Inputs for Measurement of Grant Date Fair Values

The grant date fair value of all share-based payment plans was measured based on the Black-Scholes formula. Expected volatility was estimated by considering historic average share price volatility. The weighted average inputs used in the measurement of fair values at grant date of the share-based option plan were as follows:

	2019	2018
Fair Value at grant	USD \$1.48	CDN \$5.99
Share price at grant	USD \$2.39	CDN \$10.79
Exercise price	USD \$2.79	CDN \$11.97
Expected Option Life	3.48 years	3 years
Risk free interest rate (based on government bonds)	1.50%	1.90%
Expected Volatility	98.02%	90.12%
Expected dividends	Nil	Nil

For the purpose of this table above, Canadian dollar grants were translated to US dollars at the exchange rates on the date of each Grant.

TITAN MEDICAL INC.
Notes to the Unaudited Condensed Interim Financial Statements
Three and Nine Months Ended September 30, 2019 and 2018
(In U.S. Dollars)

6. SHARE CAPITAL (continued)

c) Warrants

In addition to the warrants accounted for as a liability in Note 5 above, at September 30, 2019, the Company has issued, outstanding and exercisable, 1,324,626 broker warrants expiring between December 5, 2019 and March 21, 2021 (December 31, 2018 – 786,183 broker warrants expiring between March 16, 2019 and August 10, 2020).

7. COMMITMENTS

As part of its program of research and development around the single-port robotic surgical system, the Company has outsourced certain aspects of the design and development to third party technology and development companies. At September 30, 2019 \$12,389,899 in purchase orders remain outstanding (2018 – \$14,490,933). The Company also has on deposit with a U.S. supplier \$2,328,959 to be applied against future invoices (2018 – \$8,541,630).

8. RELATED PARTY TRANSACTIONS

During the three and nine months ended September 30, 2019, transactions between the Company 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.

Compensation paid to Executive Officers for the three and nine months ended September 30, 2019 amounted to \$265,964 and \$1,227,127 compared to \$322,792 and \$1,240,904 for the three and nine months ended September 30, 2018.

Officers and Directors of the Company control approximately 0.18% of the Company.

	<u>September 30, 2019</u>		<u>December 31, 2018</u>	
	<u>Number of Shares</u>	<u>%</u>	<u>Number of Shares</u>	<u>%</u>
John Barker	32,714	0.10	31,714	0.15
Stephen Randall	22,993	0.07	21,643	0.10
David McNally	4,167	0.01	4,167	0.02
Bruce Wolff ¹	—	—	7,610	0.03
John Schellhorn	294	0.00	294	0.00
Total	60,168	0.18	65,428	0.30
Common Shares Outstanding	33,567,399	100%	21,675,849	100%

1: Bruce Wolff retired as a Director effective May 29, 2019

9. OFFICE LEASE – NORTH CAROLINA

On September 4, 2019, the Company entered into a lease agreement with a third party to lease certain office space in Chapel Hill, NC. The term of the lease is 62 full months and the average monthly base rent is \$8,320. The lease will commence once the space is ready-for-use which is currently projected to be in December 2019. Upon commencement, the Company shall recognize a right-of-use asset and a lease liability as required under IFRS 16.

10. SUBSEQUENT EVENTS

Capital Financing

During the third quarter of 2019, the Company was unsuccessful in securing sufficient capital to maintain product development and regulatory activities at a pace that would allow accomplishment of its previously stated milestones. As a result, on October 15, 2019, the Company announced that it had withdrawn all forward-looking statements included in its continuous disclosure documents with respect to the cost and timing of the development of its robotic surgical system beyond the fourth quarter of 2019. On November 7, 2019, the Company announced that it had determined not to proceed with the public offering of units of the Company for which it filed a final short form prospectus on October 31, 2019.

The Company's primary product development supplier has stopped all work with regard to the development of the Company's robotic surgical system until such time as the Company can secure sufficient capital.

Recent Capital Transactions

On August 29, 2019, the Company entered into a Common Share Purchase Agreement (the "Agreement") with Aspire Capital Fund, LLC. ("Aspire Capital") whereby Aspire Capital has committed to purchase up to \$35 million of common shares of the Company at the Company's request from time to time, until February 28, 2022. In addition to the initial transaction described in Section 6 above, on each of November 7, 8, 11 and 12, 2019, under the terms of the Agreement, the Company sold to Aspire 100,000 common shares each date, for a total of 400,000 common shares at an average price of US\$ 0.4252 per share for gross proceeds of \$170,090.

Supplier Claim

On October 4, 2019, the Company received a demand letter related to a payment request from a service provider for all amounts the service provider believes it is owed by the Company, being US \$2,902,916. On October 11, 2019, the Company responded to the service provider, declining the terms of the demands, advising the service provider that the service provider was in breach of the terms of the parties' agreements. The Company further requested the service provider cease all work on behalf of the Company and offered to work towards a resolution of the parties' claims.

On October 24, 2019, the Company was served with a summons for civil action by the service provider, indicating they had initiated a civil claim against the Company in the United States (the "Civil Claim"). The Civil Claim alleges that the Company has not paid the amounts owed under several invoices and the claim further alleges that the invoices total approximately US \$5.0 million. The Company disputes the allegations set out in the Civil Claim and has engaged legal counsel to defend against them.

10. SUBSEQUENT EVENTS (continued)

The Company has included in its accounts payable as at September 30, 2019, the amounts invoiced by the service provider of \$2.9 million. No additional amounts have been accrued as the amounts demanded are in dispute and the Company expects that adjustments to these invoices will be received in the form of credits and will reduce the amount expensed and ultimately payable by the Company.

Office Lease – Toronto

On October 8, 2019, the Company entered into a lease agreement with a third party to lease corporate office space in Toronto, Ontario. The term of the lease is 18 months from November 1, 2019 and the average monthly base rent is \$6,863. Upon commencement, the Company shall recognize a right-of-use asset and a lease liability as required under IFRS 16.

TITAN MEDICAL INC.
MANAGEMENT'S DISCUSSION AND ANALYSIS
FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2019
(IN UNITED STATES DOLLARS)

This Management's Discussion and Analysis ("MD&A") is dated November 14, 2019.

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, 2019 (and the notes thereto) (the "Interim Financial Statements") and the annual audited financial statements for the years ended December 31, 2018 and 2017. The Interim Financial Statements have been prepared in accordance with International Financial Reporting Standards 34, Interim Financial Reporting ("IAS 34"). All financial figures are in United States Dollars except where otherwise noted.

Internal Control over Financial Reporting

During the three and nine months ended September 30, 2019, 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", "projects", "projection", "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 ("MIS");
- the Company's intent to initially pursue gynecologic surgical indications for use of its single-port robotic surgical system;
- the single-port robotic surgical system patient cart is being developed to deliver multi-articulating instruments and 3D high definition vision system into the patient's body cavity through a single access port;
- the Company's technology and research and development objectives and milestones, including estimated costs, schedules for completion and probability of success;

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- the Company's intention with respect to updating any forward-looking statement after the date on which such statement is made or to reflect the occurrence of unanticipated events;
 - the Company's expectation with respect to submitting its Investigational Device Exemption ("IDE") application to the U.S. Food and Drug Administration ("FDA") in a timely manner;
 - the Company's expectation that it can in a timely manner produce the appropriate preclinical and clinical data required for a 510(k) application to the FDA, and Technical File for the CE mark;
 - the Company's expectation with respect to launching a commercial product in certain jurisdictions;
 - the Company's intentions to develop a robust training curriculum and post-training assessment tools;
 - the Company's plans to develop its single-port robotic surgical system and the estimated incremental costs (including the status, cost and timing of achieving the development and regulatory milestones disclosed herein);
 - the Company's plans to design, create and refine software for production system functionality of the single-port surgical system and the estimated incremental costs (including the status, cost and timing of achieving the development milestones disclosed herein);
 - assuming the Company obtains regulatory clearances, the Company's intentions with respect to initiating marketing activities;
 - the Company's intention to continue to assess specialized skill and knowledge requirements and recruitment of qualified personnel and partners;
 - the Company's plan to house its U.S. operations and the anticipated dry lab to host surgeon training following product launch;
 - the Company's expectation that it will be able to finance its continuing operations by accessing public markets for its securities and potentially, debt instruments;
 - the Company's intended use of proceeds of any offering of securities;
 - the Company's intention to retain future earnings, if any, to finance expansion and growth;
 - the Company's projected competitive positioning with respect to its products;
 - the Company anticipates that it will continue its pursuit of key strategic relationships;
 - the Company's continuing efforts to secure its intellectual property and expand its patent portfolio by filing patent applications as it progresses in the development of its robotic surgical technologies and potentially by licensing suitable technologies;

- the Company's plan to focus on the development of its single-port robotic surgical system at estimated incremental costs and according to its projected timeline;
- the Company intends to utilize a direct sales force and/or distribution partner(s) to initiate marketing its single-port robotic surgical system to hospitals and ambulatory surgery centers;
- the Company's expectations with respect to its relationship with its Primary Supplier (as defined herein), including its ability to comply with the terms of the October 3, 2019 letter agreement between the Company and the Primary Supplier; and
- the Company's expectations with respect to the outcome of its dispute with the Service Provider (as defined herein).

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 access to sufficient capital on a timely basis, current global financial conditions, dependence on key personnel, conflicts of interest, dependency on additional financing, the Company's history of losses, reliance on strategic alliances, the ability to retain key personnel in a highly-competitive employment environment, the possibility of the Company's inability to augment its management team when required, the possibility that the Company's trade secrets and confidential information may be compromised, reliance on third parties for important aspects of the Company's business, uncertainty as to product development and commercialization milestones, results of operations, competition, technological advancements, rapidly changing markets, uncertain market for the Company's products and technology, uncertainty as to the enforceability of the Company's intellectual property, infringement of intellectual property rights of others, 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 market conditions and demands and preferences, changes in government policy, exposure to product liability claims, changes in accounting and tax rules, regulatory inquiries, requirements and approvals, contingent liabilities, manufacturing and product defects, stock price volatility, limited operating history, fluctuating financial results and currency fluctuations, uncertainty as to the Company's ability to meet its development and commercialization milestones, uncertainties as to development and manufacturing of a commercially viable product, reliance on external suppliers and development firms, fluctuations in the market prices of the Company's securities, possible future sales by the Company's shareholders of their securities, limited operating history of the Company, the development stage of the Company and its lack of revenue or earnings, fluctuations of the Company's financial results, the possibility that the Company is not able to maintain its "foreign private issuer" status, and the possibility of delisting from the Nasdaq or TSX exchanges.

Please also refer to the risk factors set forth starting on page 17 of the Company's Annual Information Form for the 2018 fiscal year, available on SEDAR at www.sedar.com, which are 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

The Company is the successor corporation formed pursuant to two separate amalgamations under the *Business Corporations Act* (Ontario) on July 28, 2008. Titan does not have any subsidiaries.

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.

Overall Performance

During the three and nine months ended September 30, 2019, the Company raised gross proceeds of approximately \$28,750,000 (\$25,426,744 net of closing costs including cash commission of \$2,012,500) on March 21, 2019; on August 29, the Company raised \$3,000,000 (\$2,581,887 net of closing costs including cash commission of \$160,000 and commitment shares of 639,837 common shares); and in November 2019 the Company raised a further \$170,090 under a share purchase agreement with Aspire Capital Fund, LLC. See the section below on Financings for more details. For the three and nine months ended September 30, 2019, the Company generated net and comprehensive losses of \$1,564,196 and \$44,319,942 respectively, which included research and development expenditures of \$16,570,480 and \$49,339,766 and a gain on change in fair value of warrants of \$16,887,802 and \$13,021,129 respectively.

The Company's business is focused on research and development with the intent of commercializing computer-assisted robotic surgical technologies for application in MIS. The Company is developing its single-port robotic surgical system, which is comprised of a surgeon-controlled 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 patient cart and a 3D endoscopic view inside the patient's body during MIS procedures. The Company intends to initially pursue gynecologic surgical indications for use of its single-port robotic surgical system.

Development of the single-port robotic surgical system has proceeded with input from surgeons and operating room staff experienced in MIS, consultation with medical technology development firms and input from the Company's Surgeon Advisory Board (the "Surgeon Advisory Board") comprised of surgeons who specialize in MIS. This approach has allowed the Company to design a robotic surgical system that is intended to include the traditional advantages of robotic surgery, including 3D stereoscopic imaging and restoration of instinctive control, as well as new and enhanced features, including an advanced surgeon workstation incorporating a 3D high definition display providing a more ergonomically friendly user interface and a patient cart with enhanced instrument dexterity.

The single-port robotic surgical system patient cart is being developed to deliver multi-articulating instruments and a dual-view camera system into a patient's abdominal body cavity through a single access port. The dual-view camera system consists of a flexible 3D high-definition endoscopic camera along with a light source and a camera insertion tube of approximately 25 millimeter diameter that includes an integrated 2D high-definition camera along with an independent light source that once inserted, provides visualization for optimal positioning of the camera insertion tube by a bedside assistant under the guidance of the surgeon. Once the camera insertion tube is

inserted and positioned in the body, it is docked to the central unit of the patient cart and the 3D high-definition endoscopic camera is deployed in a manner that the endoscopic camera and multi-articulating instruments can be controlled by the surgeon via the workstation. The reusable multi-articulating, snake-like instruments are designed to couple with an assortment of permanent and detachable single patient use end effectors that in the case of the latter, provide first use quality in every case and eliminate the reprocessing of the complete instrument. The use of reusable (for a specific number of uses) robotic instruments that can be cleaned and sterilized between surgeries, and single patient use end effectors is intended to minimize the cost per procedure without compromising surgical performance. The patient cart 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 within the operating room, or redeployed within hospitals and ambulatory surgical centers, where applicable.

As part of the development of its single-port robotic surgical system, the Company is developing a robust training curriculum and post-training assessment tools for surgeons and surgical teams. The proposed training curriculum is planned to include cognitive pre-training, psychomotor skills training, surgery simulations, live animal and human cadaver lab training, surgical team training, troubleshooting and an overview of safety. Post-training assessment will include validation of the effectiveness of those assessment tools. The Company has developed 14 core surgical skills simulation modules for use with the surgeon workstation in the first phase of the comprehensive surgeon training curriculum that the Company is planning for its single-port robotic surgical system.

The Company continuously evaluates its technologies under development for intellectual property protection through a combination of trade secrets and patent application filings. The Company has expedited the filing and prosecution of patents that management believes will validate the novelty of its unique technology, and in turn, support the value of the entire franchise. Early evidence of success with this initiative has been the rapid growth of its patent portfolio from 12 issued patents at December 31, 2016 to 47 issued patents as of November 14, 2019. The Company anticipates further expanding its patent portfolio by filing additional patent applications as it progresses in the development of robotic surgical technologies and potentially, by licensing suitable technologies. As part of its development efforts, the Company has established certain milestones that it uses to assess its development progress. These milestones relate to technology and design advancements as well as preclinical and clinical studies and completion of 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 development schedule could be delayed.

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 product.

During the year ended December 31, 2018, the Company achieved all of its milestones as published in the Company's Annual Information Form for the 2018 fiscal year. The Company

generally continued this trend of accomplishment through the six months ended June 30, 2019, having initiated preclinical acute and chronic (survival) live animal and human cadaver procedures according to Good Laboratory Practices (“GLP”). However, human factors evaluation (“HFE”) studies that were previously planned for the second quarter of 2019 were moved to the third quarter in order to accommodate the GLP procedures, which from a timing perspective were a priority.

During the quarter ended September 30, 2019, the Company completed and documented the GLP procedures, and proceeded to complete the HFE studies, which included verification of production system operation with clinical experts under rigorous formal (summative) human factors evaluation under simulated robotic manipulation exercises. During the quarter, the Company’s European Notified Body also completed audits of the Company’s quality system procedures and related documentation for ISO Certification.

The future success of the Company is substantially dependent on funding its research and development program and maintaining the support of its research and development and manufacturing service providers. During the third quarter of 2019, the Company was unsuccessful in securing sufficient capital to maintain product development and regulatory activities at a pace that would allow accomplishment of its previously stated milestones. As a result, on October 15, 2019, the Company announced that it had withdrawn all forward-looking statements included in its continuous disclosure documents with respect to the cost and timing of the development of its robotic surgical system beyond the fourth quarter of 2019. On November 7, 2019, the Company announced that it had determined not to proceed with the public offering of units of the Company for which it filed a final short form prospectus on October 31, 2019 (the “October Offering”).

As of the date of this MD&A, the Company’s primary product development supplier (the “Primary Supplier”) has stopped all work with regard to the development of the Company’s robotic surgical system. Additionally, the Company’s relationship with another service provider (the “Service Provider”) has deteriorated, resulting in the Service Provider serving the Company with a summons for civil action, indicating that the Service Provider has initiated a civil claim against the Company in the United States (the “Civil Claim”). For more information, please see the section “*Discussion of Operations*”, below.

Discussion of Operations

The Company incurred a net and comprehensive loss of \$1,564,196 and \$44,319,942 during the three and nine months ended September 30, 2019, compared with a net and comprehensive loss of \$7,534,456 and \$14,228,570 for the three and nine months ended September 30, 2018. The increase in net and comprehensive loss for the period is primarily attributed to substantially higher research and development expenditures in 2019 compared to 2018 partially offset by the gain on the change in fair value of warrants in nine months ended September 30, 2019 compared to the gain for the nine months ended September 30, 2018. The magnitude of the gain in the fair value of warrants was impacted substantially by the number of warrants issued in 2019, which did not exist during the same period of 2018.

Total expenses during the first nine months of 2019 were approximately \$55.6 million. The Company had previously forecasted at December 31, 2018 that in the first nine months of 2019, it expected to incur total expenses of approximately \$49.0 million. The difference between the original forecast and actual expenses incurred is primarily related to increased research and development costs. Actual costs exceeded estimated costs due to unanticipated robotic system software issues and design changes related to consumable instruments and improved camera systems that interface with the robotic system and led to delays in the preparation of documentation

for the IDE application. The increase in costs was approximately \$6.6 million, or 13.5% in total expenses during the first nine months of 2019, over the forecast at December 31, 2019.

During the three and nine months ended September 30, 2019, the Company continued to support strategic product development and manufacturing relationships with qualified subcontractors, carried on efforts to globally secure the Company's intellectual property through the patent and licensing process, and continued the development of the Company's single-port robotic surgical system.

Research and development expenditures (all of which were expensed in the period), for the nine months ended September 30, 2019 and September 30, 2018, respectively, were as follows:

	Three Months Ended September 30, 2019	Nine Months Ended September 30, 2019	Three Months Ended September 30, 2018	Nine Months Ended September 30, 2018
Research and Development Expenditures				
Intellectual property development	\$ 2,685	\$ 7,321	\$ 2,327	\$ 12,212
Product development	16,567,795	49,332,445	9,141,660	18,652,124
Total	\$ 16,570,480	\$ 49,339,766	\$ 9,143,987	\$ 18,664,336

Research and development expenditures increased considerably in the nine months ended September 30, 2019 compared to the same period in 2018. This increase was primarily due to an increase in available funding in 2019 that allowed the Company to accelerate product development in 2019, compared to 2018.

Other expenses, excluding the research and development expenses discussed above and excluding finance income (costs) and foreign exchange, the balance of general expenses for the three and nine months ended September 30, 2019 were \$1,968,877 and \$6,314,000, compared to \$1,707,084 and \$5,240,529 for the comparable periods in 2018. The increase of \$1,073,471 for the nine months ended September 30, 2019 is primarily attributable to higher consulting fees, stock-based compensation and an increase in insurance expense, partially offset by lower management salaries and fees.

The impact of the change in fair value of warrants for the three and nine months ended September 30, 2019 was a gain of \$16,887,802 and \$13,021,129 respectively, compared to gains of \$4,075,833 and \$9,928,944 for the same periods in 2018. The difference of \$3,092,185 for the nine months ended September 30, 2019 reflects a significant increase in the number and fair value of warrants in 2019 compared to 2018.

The Company realized \$19,314 and \$113,532 of interest income on its cash and cash-equivalent balances during the three and nine months ended September 30, 2019, and \$93,894 and \$176,877 for the same periods in 2018. This decrease in interest income is primarily attributed to lower cash balances in its money market account in 2019 compared to prior cash balances through the period ended September 30, 2018.

Due to a shortfall in capital, on October 3, 2019, the Company and its Primary Supplier entered into a letter agreement providing that until the Company has secured sufficient financing, the requirement that the Company maintain a deposit under an existing

agreement with the supplier would be waived. Instead, the Company would pre-pay for development work in advance of each month during which product development services are to be provided. Consequently, US \$2.0 million which had been paid to the supplier and held as a deposit under the original contract will be applied toward the Company's payables for past services rendered by the supplier. Once the Company has sufficient cash on hand to fund a deposit equal to three months of projected invoices from the supplier, the Company will then be required to maintain a deposit in that amount. Thereafter, once the Company has made full on time payment of all invoices for a six-month period, the deposit terms will revert to the terms of the existing original agreement.

Pursuant to the existing original agreement, the amount of the Company's deposit with the supplier is based on forecasted invoices with the supplier and the Company's cash position on a monthly basis. Under its original contractual commitment with the supplier, and provided that the Company has sufficient financial resources to finance twelve months of operations, no deposit would be required. If the Company has financial resources sufficient to finance operations between six and twelve months, then an amount equivalent to the projected amount of the next month's invoice from the supplier would be required as the deposit. If the Company has financial resources that would fund less than six months of operations, then a deposit equal to two months of projected invoices from the supplier would be required.

The Company and its Primary Supplier are in regular communication regarding progress under ongoing statements of work, deposit requirements, and the Company's capital resources. In the circumstances of the reduction of capital available to the Company to pay the supplier and in particular, the Company not completing the financing pursuant to the October Offering, the supplier has stopped all development work that the supplier performs for the Company and it has reassigned a number of its employees that were previously dedicated to the Company's project to unrelated work. The Company and the supplier mutually agreed to release and apply deposits on hand with the supplier to pay outstanding invoices and reduce exposure to the supplier. This will significantly impact the timing and costs associated with the completion of the Company's future milestones as additional time and cost will be incurred to rehire and/or reassign employees and resume product development.

In recent weeks, the Company's relationship with the Service Provider has deteriorated as the service provider, on the one hand, has noted concerns about the Company's inability to fully pay invoices while the Company, on the other hand, has expressed dissatisfaction with the quality of the work performed by the service provider. The Service Provider had been engaged by the Company to develop devices associated with the Company's robotic surgical system. Discussions were under way between the parties to negotiate appropriate arrangements with regard to the scope of work, timing, fees for services and other terms and conditions.

On October 4, 2019, the Company received a demand letter from attorneys engaged by the service provider demanding payment for all amounts the service provider believes it is owed by the Company, being US \$2,902,916 (the "Service Provider Demand Letter"). On October 11, 2019, the Company issued a response letter to the Service Provider Demand Letter declining the terms of the demands set out in the Service Provider Demand Letter (the "Company Response Letter"). Pursuant to the Company Response Letter, the Company has requested that the service provider cease all work on behalf of the Company.

On October 24, 2019, the Company was served with a summons for civil action by the Service Provider, indicating that the Service Provider has initiated the Civil Claim. The Civil Claim alleges that the Company has not paid the amounts owed under several invoices and the claim further alleges that the invoices total approximately US \$5.0 million. The Company disputes the allegations set out in the Civil Claim and has engaged legal counsel to defend against them. Specifically, the Company intends to assert numerous defenses to the Service Provider's claims, including that i) the Service Provider rendered services that were not required or requested by the Company, and ii) the services that were rendered by the Service Provider were not rendered in a manner compliant with the quality standards established in the contract between the Company and the Service Provider. In addition, the Company intends to assert counterclaims for damages against the Service Provider based on the Service Provider's failure to comply with its obligations under the parties' agreements. Although the outcome of the Civil Claim cannot be predicted, at a minimum, the Company does not expect that it will be responsible for the amounts set out in the Civil Claim. There is no assurance that the Company will be successful in defending against the Civil Claim or in its counterclaim against the Service Provider.

If the Company is successful in raising additional capital, which it may not be, the Company plans to normalize supplier relationships by first paying valid past due invoices and then developing a work plan with input from suppliers that is consistent with the Company's priorities toward milestone achievement having regard to the Company's available capital resources. As the Company's Primary Supplier has agreed to waive certain deposit requirements, the Company plans to comply with the specified interim requirements of the supplier until the Company has raised sufficient capital to fund the deposit as described above. In any case in which the Company may be unable to normalize supplier relationships, it has identified alternative suppliers of those services.

The Company has the ability to replace any product development service provider in the event it should be necessary or desirable to the Company. However, the engagement of other service providers will be subject to the availability of sufficient capital, successful negotiation of commercial terms, statements of work, payment terms and possibly, require deposits and/or pre-payments.

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 and calculated in accordance with IFRS. Basic and diluted loss per share figures are calculated on the basis of the 30:1 consolidation of common shares which was effected in June 2018.

	Three Months Ended September 30, 2019	Three Months Ended June 30, 2019	Three Months Ended March 31, 2019	Three Months Ended December 31, 2018	Three Months Ended September 30, 2018	Three Months Ended June 30, 2018	Three Months Ended March 31, 2018	Three Months Ended December 31, 2017
Net sales	—	—	—	—	—	—	—	—
Net and Comprehensive Loss (gain) from operations	\$ 1,564,196	\$14,472,866	\$28,282,880	\$ 8,410,702	\$ 7,534,456	\$5,885,415	\$808,699	\$12,829,980
Basic and diluted loss per share	\$ 0.05	\$ 0.46	\$ 1.22	\$ 0.41	\$ 0.41	\$ 0.47	\$ 0.07	\$ 1.20

Significant changes in key financial data from the three months ended December 31, 2017 through the three months ended September 30, 2019 reflect the ongoing development of the Company's single-port robotic 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.

During the third quarter of 2019, the Company had a net and comprehensive loss of \$1,564,196 compared to a net and comprehensive loss of \$7,534,456 for the same period in 2018. This decrease in loss of \$5,970,260 is primarily attributed to substantially higher research and development expenditures in 2019 of \$16,570,480 compared to \$9,143,987 in 2018 offset by the gain in the fair value of warrants in 2019 of \$16,887,802 compared to \$4,075,833 in 2018. Research and development expenses increased based on the availability of funding. The gain in the fair value of warrants was as a result of the stock price being lower at quarter end, thus reducing the warrant liability at quarter end.

Liquidity and Capital Resources

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

During the third quarter of 2019, the Company was unsuccessful in securing sufficient capital to maintain product development and regulatory activities at a pace that would allow accomplishment of its previously stated milestones. As a result, on October 15, 2019, the Company announced that it had withdrawn all forward-looking statements included in its continuous disclosure documents with respect to the cost and timing of the development of its robotic surgical system beyond the fourth quarter of 2019. On November 7, 2019, the Company announced that it had determined not to proceed with the October Offering.

The ability of the Company to arrange 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 or at all. If adequate funds are not available, or are not available on acceptable terms, the Company may not be able to continue its technology development program. 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, or loss of their investment.

The Company had \$1,170,385 of cash and cash equivalents on hand and accounts payable and accrued liabilities of \$12,272,769 excluding warrant liability at September 30, 2019, compared to \$29,230,819 and \$4,439,591 respectively, at September 30, 2018. The Company's working capital at September 30, 2019 was \$8,044,769 excluding warrant liability, compared to \$29,817,770 at September 30, 2018.

Below is a table that sets out the various series of the Company's warrants that were previously issued, using historic rates.

	<u>Issue Date</u>	<u>Expiry Date</u>	<u>Number Issued</u>	<u>Number Outstanding</u>	<u>Exercise Price (US\$)</u>	<u>Exercise Price (CDNS)</u>
			Note 1	Note 1		
TMD.W.T.F	16-Nov-15	16-Nov-20	233,740	233,740		48.00
TMD.W.T.G	12-Feb-16	12-Feb-21	389,027	386,694		30.00
TMD.W.T.G	23-Feb-16	23-Feb-21	58,226	58,226		30.00
TMD.W.T.H	31-Mar-16	31-Mar-21	501,831	501,831		36.00
TMD.W.T.H	14-Apr-16	31-Mar-21	75,275	75,275		36.00
TMD.W.T.I	20-Sep-16	20-Sep-21	569,444	569,444		22.50
TMD.W.T.I	27-Oct-16	20-Sep-21	67,667	67,667		22.50
Not Listed	16-Mar-17	16-Mar-21	357,787	355,253		15.00
Not Listed	29-Jun-17	29-Jun-22	1,612,955	75,810		6.00
Not Listed	21-Jul-17	29-Jun-22	370,567	370,567		6.00
Not Listed	24-Aug-17	24-Aug-22	563,067	563,067		6.00
Not Listed	5-Dec-17	5-Dec-22	1,533,333	1,533,333		18.00
Not Listed	10-Apr-18	10-Apr-23	1,126,665	1,126,665		10.50
Not Listed	10-May-18	10-Apr-23	168,889	168,889		10.50
Not Listed	10-Aug-18	10-Aug-23	7,679,574	6,661,068	3.20	
Not Listed	21-Mar-19	21-Mar-24	8,455,882	8,455,882	4.00	
			<u>23,763,929</u>	<u>21,203,411</u>		

Note 1: After giving effect to the 30:1 Share Consolidation in June 2018

Development Objectives and Regulatory Plans

The Company uses a combination of internal resources and external development firms to execute the research, development and regulatory plans for the Company's single-port robotic surgical system. Development objectives have been established to support the Company's planned FDA 510(k) filing for marketing clearance in the U.S., and submittal of a Technical File to a European Notified Body for achievement of the CE mark, which indicates that a product for sale within the European Economic Area has been assessed to conform with health safety and environmental protection requirements.

The Company has previously confirmed with the FDA that confirmatory human data will be required for its planned 510(k) regulatory submission. The performance of human surgeries with the single-port robotic surgical system will require an IDE from the FDA, which must be submitted and approved in advance. Further, the recruitment of surgeons from multiple hospital sites will be necessary to perform the surgeries. Each of these sites will require approval of their independent Institutional Review Board ("IRB") to approve the studies.

Previous results achieved by surgeons in operating prototypes in animal and cadaver studies have validated the potential for single incision surgeries to be performed with the Company's single-port surgical system. Insights gained from these preclinical studies have directed the Company to make further product improvements. Such improvements were implemented in a capital equipment engineering confidence build of an improved prototype, which was announced in January of 2019. On April 30, 2019 the Company announced that it had achieved hardware design freeze for its single-port robotic surgery system. In June 2019, the Company commenced preclinical live animal and cadaver studies according to GLP for FDA submittal. On July 18, 2019, the Company announced that it had completed all planned GLP surgical procedures necessary for its Investigational Device Exemption ("IDE") application to the FDA.

During the quarter ended September 30, 2019, the Company completed and documented the GLP procedures, and proceeded to complete the HFE studies, which included verification of production system operation with clinical experts under rigorous formal (summative) human factors evaluation under simulated robotic manipulation exercises. During the quarter, the Company's European Notified Body also completed audits of the Company's quality system procedures and related documentation for ISO Certification.

The future success of the Company is substantially dependent on continuing to raise equity financing to fund its research and development program and on maintaining the support of its research and development and manufacturing service providers. See "*Liquidity and Capital Resources*".

Given the uncertainty of, among other things, product development timelines, regulatory processes and requirements (such as confirmatory human studies), as well as the availability of required capital to fund development and operating costs, actual costs and development times may exceed management's current expectations and an accurate estimate of the future costs of the regulatory phases and development milestones beyond the fourth quarter of 2019 is not possible at this time.

Current Development Plan

The Company's development milestones are set forth in the table below (the "Current Development Plan").

<i>Milestone Number</i>	<i>Development Milestones</i>	<i>Estimated Cost (in US million \$)</i>	<i>Schedule for Milestone Completion</i>	<i>Comments</i>
Milestone 1	<ul style="list-style-type: none"> a) Prototype, test and procure surgeon feedback on revised workstation controls b) Complete software and hardware change requirements and finalize computer and software architecture for production systems c) Complete revisions to instrument and lens wash system and demonstrate performance 		Q2 2018	Completed
Milestone 2	<ul style="list-style-type: none"> a) Complete Camera Insertion Tube (CIT) engineering confidence build based on improved design b) Complete design of surgeon workstation and patient cart for engineering confidence build c) Complete and demonstrate full suite of simulation software for beta test 		Q3 2018	Completed
Milestone 3	<ul style="list-style-type: none"> a) Complete capital equipment engineering confidence build based on improved design 		Q4 2018	Completed
Milestone 4	<ul style="list-style-type: none"> a) Document results of confidence build unit testing, implement subsystem design improvements and schedule preliminary audit of quality system by European Notified Body 		Q1 2019	Completed
Milestone 5	<ul style="list-style-type: none"> a) Update system design and related hardware and software documentation b) Initiate Design Freeze c) Initiate preclinical live animal (swine) and cadaver studies according to final protocols for FDA submittal 		Q2 2019	Completed Completed Completed

<i>Milestone Number</i>	<i>Development Milestones</i>	<i>Estimated Cost (in US million \$)</i>	<i>Schedule for Milestone Completion</i>	<i>Comments</i>
	d) Submit draft protocols to FDA in Q-submission(s) for comment			Completed
Milestone 6	a) Complete and document preclinical live animal (swine) and cadaver studies according to final protocols for FDA submittal		Q3 2019	Completed
	b) Verify production system operation with clinical experts under rigorous formal (summative) human factors evaluation under simulated robotic manipulation exercises			Completed
	c) Complete audits for ISO 13485 Certification		Q3 2019	Completed
Milestone 7	a) Complete improvements to camera insertion tube and endoscope module and verify performance	5.2(1)	Q3 2019	Completed
	b) Begin to compile design and verification documentation for application for Investigational Device Exemption (IDE)			Complete
	c) Complete pre-IRB submission preparations for human confirmatory studies, including communications with IRB Committees of hospitals			Complete
Milestone 8 ⁽²⁾	a) Obtain final independent report from validation testing of system safety and usability for the intended users and use environments under simulated	4.1(2)	Q4 2019	Complete

- (1) Includes accrued but unpaid research and development costs estimated at approximately \$4.6 million, and accrued but unpaid general and administrative costs estimated at approximately \$0.6 million. Other than payment of invoices for work previously performed by its subcontractors, this milestone is complete. The Company does not anticipate any further cash outflow requirements related to Milestone 7.
- (2) Milestones 8 constitutes the Company's next significant milestone and includes research and development costs estimated at approximately \$3.2 million, and general and administrative costs estimated at approximately \$0.9 million. Of these amounts, approximately \$1.4 million has been incurred. Milestone 8 is a material milestone for the following reasons. If Titan does not obtain the final independent report from validation testing, then the Company will not be able to produce evidence of successful completion of human factors evaluation and implementation of mitigations and would not be in a position to file its IDE application nor subsequently its 510(k) submission. If Titan does not complete the user manual it would not be able to demonstrate its accuracy and effectiveness in preventing user errors during usability studies nor would the Company be in a position to amend the user manual based on observations made during those studies and it would be missing a key element required for its regulatory filings. If Titan does not obtain ISO 13485 certification it would not be able to demonstrate it had sufficiently developed and exercised an FDA-compliant GMP quality system during product development prior to commercialization nor would the Company be eligible to submit a Technical File to a European Notified Body to obtain the CE mark.

<i>Milestone Number</i>	<i>Development Milestones</i>	<i>Estimated Cost (in US million \$)</i>	<i>Schedule for Milestone Completion</i>	<i>Comments</i>
	<p>robotic manipulation exercises intended to replicate essential surgical tasks</p> <p>b) Complete User Manual for robotic system setup by operating room staff and surgeon operation of surgeon workstation, patient cart, instruments and accessories</p> <p>c) Obtain ISO 13485 Certification⁽³⁾</p>			<p>In Process</p> <p>In Process</p>
Milestone 9	<p>a) Implement and test improvements to instruments and accessories</p> <p>b) Perform biocompatibility testing of instruments at independent lab</p> <p>c) Perform electrical safety testing for surgeon workstations and patient cart, including electromagnetic compatibility (EMC) and electromagnetic interference (EMI) tests at independent lab</p> <p>d) Update application for IDE as additional testing lab data is received and continue preparations for human confirmatory studies</p>	TBD	TBD	New
Milestone 10	<p>a) Launch rebranded product line, including logos with trade-mark pending, literature and presentation templates, product and packaging labeling, and new website</p> <p>b) Complete system software validation</p> <p>c) Submit IDE application to FDA⁽⁴⁾</p>	TBD	TBD	<p>New</p> <p>New</p> <p>Moved from Q3 2019</p>

(3) The March Prospectus disclosed that obtaining ISO 13485 Certification was expected to occur in the third quarter of 2019 and receipt of the certification is now projected for completion in the fourth quarter 2019.

(4) The filing of the IDE application with the FDA was identified as the Company's next significant milestone in the March Prospectus. Due to the limited availability of capital resources as well as the necessary product changes identified in this short form prospectus, the Company has not yet submitted its IDE application to the FDA.

In addition, the Company has been unable to fund planned software development, verification and validation or complete the necessary product development, testing and documentation needed to meet regulatory requirements for an IDE application to the FDA. Although the scope of this work has not increased from that disclosed in the March Prospectus, it will nonetheless take approximately three months from the date such capital resources do become available to resume these activities.

<i>Milestone Number</i>	<i>Development Milestones</i>	<i>Estimated Cost (in US million \$)</i>	<i>Schedule for Milestone Completion</i>	<i>Comments</i>
Milestone 11	a) Receive IDE approval from FDA ⁽⁵⁾ b) Receive approvals from IRB Committees of IDE hospitals c) Commence human confirmatory studies under IDE protocols for FDA submittal	TBD	TBD	Moved from Q3 2019 Moved from Q4 2019 Moved from Q4 2019
Milestone 12	a) Complete human confirmatory studies and patient follow-up and compile reports from human confirmatory studies b) Submit 510(k) application to FDA c) Submit Technical File to European Notified Body for review for CE Mark d) Ongoing software development and implementation e) Planning and preparation for manufacturing and commercialization	TBD	TBD	Moved from Q4 2019 Moved from Q4 2019 Moved from Q4 2019 Moved from Q1 2020 Moved from Q1 2020
Milestone 13	a) Planning and preparation for commercialization	TBD	TBD	Moved from Q2 2020

The increase in time and costs over prior estimates relates to a reduction in the Company's pace of product development due to limited financial resources, which has moved out the projected date by approximately 18 months and added to the estimated costs for the Company's submission of its 510(k) application.

The details above with respect to Milestones 10, 11, 12 and 13 reflect the Company's current expectations with respect to the development steps for its robotic surgical system. However, the Company is unable to provide any forecast, and, concurrently with the filing of its short form prospectus on October 15, 2019 in connection with the October Offering, issued a press release withdrawing all prior forecasts, as to the timing for completion of these milestones or their estimated costs at this time.

While the Company is assessing the availability of sufficient financing, it has taken temporary measures to reduce its cash burn over its historical rates, including a significant reduction in its rate of development, sourcing more cost-effective resources and reducing its general and administrative overhead where possible.

⁽⁵⁾ The March Prospectus disclosed that receipt of IDE approval from the FDA was expected to occur in the third quarter of 2019. However, the Company has withdrawn the projections for achievement of all development milestones beyond Milestone 8, including their timing and cost.

During the third quarter of 2019, the Company completed Milestone 6, including the animal studies and the human factors evaluation studies originally planned for completion during the second quarter of 2019. However, as data from the animal studies and human factors studies was delayed, followed by delays in receiving documentation required from third parties, there will be a corresponding delay in the Company's planned IDE application to the FDA. In addition, the animal studies and human factors studies have revealed additional product enhancements that the Company intends to implement before proceeding to human use. The pace of implementation of product enhancements and the production of documentation for the Company's IDE application are paced by the availability of capital resources, which are currently insufficient. As a result of these factors, the submission of the IDE application to the FDA (Milestone 10) cannot be predicted at this time. Although audits for ISO13485 were completed as planned during the third quarter (Milestone 6), the issuance of the ISO13485 certificate is expected to occur during the fourth quarter (Milestone 8), due to required follow-up documentation and the review process of the Company's Notified Body.

The table below sets out certain details comparing the Company's development plan and expected costs as disclosed in the Company's March Prospectus against its current development plan and actual costs as disclosed herein:

<i>Development milestone as disclosed in March Prospectus</i>	<i>Estimated cost (in US million \$) as disclosed in March Prospectus (A)</i>	<i>Development milestone as disclosed in this prospectus</i>	<i>Actual Cost (B)</i>	<i>Difference between estimated cost disclosed in March Prospectus and actual cost (A-B)</i>	<i>Reasons for Cost Difference</i>
Milestone 4 Document results of confidence build unit testing, implement subsystem design improvements and	16.0	Milestone 4 Document results of confidence build unit testing, implement subsystem design improvements and	16.1	0.63% increase	Actual costs exceeded estimated costs due to minor variances.

<i>Development milestone as disclosed in March Prospectus</i>	<i>Estimated cost (in US million \$) as disclosed in March Prospectus</i> <i>(A)</i>	<i>Development milestone as disclosed in this prospectus</i>	<i>Actual Cost</i> <i>(B)</i>	<i>Difference between estimated cost disclosed in March Prospectus and actual cost</i> <i>(A-B)</i>	<i>Reasons for Cost Difference</i>
schedule preliminary audit of quality system by European Notified Body	10	schedule preliminary audit of quality system by European Notified Body			
<u>Milestone 5</u> Update system design and related hardware and software documentation Verify production system operation with clinical experts under rigorous formal (summative) human factors evaluation under simulated robotic manipulation exercises	16.9	<u>Milestone 5</u> Update system design and related hardware and software documentation Moved to Milestone 6	21.0	24.26% increase	Actual costs exceeded estimated costs due to unanticipated robotic system software issues and design changes related to consumable instruments and improved camera systems that interface with the robotic system and led to delays in the preparation of documentation for the IDE application. These issues also caused delay in the completion of the human factors evaluation that was completed in the third quarter of 2019 rather than as scheduled in the second quarter of 2019.
Implement SPORT Surgical System Design Freeze (5)		Initiate Design Freeze			
Initiate preclinical live animal (swine) and cadaver studies according to final protocols for FDA submittal (5)		Initiate preclinical live animal (swine) and cadaver studies according to final protocols for FDA submittal			
Submit Investigational Device Exemption (IDE) application		Moved to Milestone 10			

<i>Development milestone as disclosed in March Prospectus</i>	<i>Estimated cost (in US million \$) as disclosed in March Prospectus</i> <i>(A)</i>	<i>Development milestone as disclosed in this prospectus</i>	<i>Actual Cost</i> <i>(B)</i>	<i>Difference between estimated cost disclosed in March Prospectus and actual cost</i> <i>(A-B)</i>	<i>Reasons for Cost Difference</i>
to FDA					
Submit draft protocols to FDA in Q-submission(s) for comment		Submit draft protocols to FDA in Q-submission(s) for comment			
<u>Milestone 6</u> Complete and document preclinical live animal (swine) and cadaver surgery studies according to final protocols for FDA submittal	16.1	<u>Milestone 6</u> Complete and document preclinical live animal (swine) and cadaver studies according to final protocols for FDA submittal	13.1	18.63% decrease	Actual costs were less than estimated costs as not all steps were completed in the planned timeframe, with certain steps being deferred to Milestone 9 and beyond, including receipt of ISO 13485 Certification and IDE approval. The cause for this delay is the unanticipated robotic system software issues and design changes related to consumable instruments and improved camera systems that interface with the robotic system.
Obtain ISO 13485 Certification		Moved to Milestone 8			
		Complete audits for ISO 13485 Certification			
Receive IDE approval from FDA		Moved to Milestone 11			
		Verify production system operation with clinical experts under rigorous formal (summative) human factors evaluation under simulated robotic manipulation			

<i>Development milestone as disclosed in March Prospectus</i>	<i>Estimated cost (in US million \$) as disclosed in March Prospectus</i>	<i>Development milestone as disclosed in this prospectus</i>	<i>Actual Cost</i>	<i>Difference between estimated cost disclosed in March Prospectus and actual cost</i>	<i>Reasons for Cost Difference</i>
	<i>(A)</i>		<i>(B)</i>	<i>(A-B)</i>	
		exercises			

The Company had previously forecasted at June 30, 2019 that in the second half of 2019, it expected to incur total milestone-related expenses of approximately \$42.3 million. The Company now anticipates that those expenses will total approximately \$21.8 million. The difference between the original and updated milestone-related costs is primarily related to scaled back operations resulting from the Company's capital shortfall. The Company has withdrawn the projections for achievement of all milestones beyond Milestone 8, including the timing and cost.

Due to the nature of technology research and development and the Company's lack of sufficient capital, 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 milestones could be identified as the development of its single-port robotic 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, clarification of or changes to regulatory requirements, the availability of financing and the ability of development firms engaged by the Company to complete work assigned to them. The total costs and time to

complete the development of the Company's single-port robotic surgical system cannot be forecast beyond the fourth quarter of 2019. Please see the section "*Forward-Looking Statements*".

Please also refer to the risk factors set forth starting on page 17 of the Company's Annual Information Form for the 2018 fiscal year, available on SEDAR at www.sedar.com.

Financings

Offerings During 2019

On November 1, 2019 the Company announced that it had filed and been receipted for a final short form prospectus in connection with the October Offering. On November 7, 2019, the Company announced that it had determined not to proceed with the October Offering.

On August 29, 2019, the Company announced that it had entered into a Common Share Purchase Agreement (the "Aspire Agreement") with Aspire Capital Fund, LLC ("Aspire Capital") where Aspire Capital committed to purchase up to US\$35.0 million of common shares of Titan at the Company's request from time to time, until February 28, 2022. On commencing the Aspire Agreement, the Company immediately sold to Aspire Capital 1,777,325 common shares at a price of US\$1.6879 per share for gross proceeds of US\$3.0 million, and also issued 639,837 common shares to Aspire as a commitment fee (the "Commitment Shares").

In addition to the initial transaction with Aspire Capital described above, on each of November 7, 8, 11 and 12, 2019, under the terms of the Agreement, the Company sold to Aspire 100,000 common shares each date, for a total of 400,000 common shares at an average price of US\$0.4252 per share for gross proceeds of US\$170,090.

Titan filed a prospectus supplement to the Company's Form F-3 shelf registration statement (File No. 333-232898), which was declared effective on August 2, 2019 by the U.S. Securities and

Exchange Commission, qualifying the offer and sale of common shares to Aspire Capital (including the Commitment Shares). Northland Securities, Inc. acted as the Company's agent and financial advisor in connection with the offering and was paid a cash fee of \$160,000.

Under the Aspire Agreement, no common shares will be sold by Aspire Capital on the Toronto Stock Exchange ("TSX") or on other trading markets in Canada. The TSX approved the issuance of common shares pursuant to the Aspire Agreement, and Nasdaq authorized the listing of the common shares and Commitment Shares.

On March 21, 2019, Titan completed an offering of securities made pursuant to an agency agreement ("Agency Agreement") dated March 18, 2019 between the Company and Bloom Burton Securities Inc. as agent ("Bloom Burton"). The Company sold 8,455,882 units under the offering at a price of \$3.40 per unit for gross proceeds of approximately \$28,750,000 (\$25,426,744 net of closing cost including cash commission of \$2,012,500). Each unit consisted of one common share of the Company and one warrant, each warrant entitling the holder thereof to acquire one common share at an exercise price of \$4.00 and expiring March 21, 2024. The warrants were valued at \$15,897,059 based on the value determined by the Black-Scholes model and the balance of \$12,852,941 was allocated to the common shares.

Pursuant to the Agency Agreement, in addition to the cash commission paid to Bloom Burton, broker warrants were issued to Bloom Burton which entitle the holder to purchase 591,911 common shares at a price of \$3.40 per share prior to expiry on March 21, 2021. The broker warrants were valued using the Black-Scholes model and the value of \$864,190 was accounted for as an increase in the closing costs and allocated between the shares and the warrants.

During the quarters ended September 30 and June 30, 2019, there were no warrants exercised. During the three months ended March 31, 2019, 1,018,506 warrants were exercised for total proceeds of \$3,259,219. The fair value of the exercised warrants was \$3,742,824 which was reclassified from warrant liability to common shares.

Offerings During the Third Quarter of 2018

On August 10, 2018, the Company completed an offering of securities made pursuant to an agency agreement dated August 7, 2018 between the Company and Bloom Burton as agent in respect of the offering. The Company sold 7,679,574 units under the offering price of \$2.50 per unit for gross proceeds of approximately \$19,198,935 (\$17,464,711 net of closing cost including cash commission of \$1,343,925). Each unit consisted of one common share and one warrant, each warrant entitling the holder to acquire one common share at an exercise price of \$3.20 and expiring August 10, 2023.

Offerings During Second Quarter of 2018

On April 10, 2018, the Company completed an offering of securities pursuant to an agency agreement dated April 3, 2018 between the Company and Bloom Burton as agent in respect of the offering. The Company sold 1,126,664 units under the offering at a price of CDN \$9.00 per unit for gross proceeds of approximately \$8,035,941 (\$7,211,320 net of closing costs including cash commission of \$562,516). Each unit consisted of one common share and one warrant, each

warrant entitling the holder thereof to acquire one common share at an exercise price of CDN \$10.50 and expiring April 10, 2023.

On May 10, 2018, the Company announced the exercise of the over-allotment option granted to Bloom Burton as agent in respect of the offering, at a price of CDN \$9.00 per unit, completed on April 10, 2018 and the Company sold an additional 168,888 units at the offering price for additional gross proceeds of \$1,189,856 (\$1,100,238 net of closing costs including cash commission of \$76,988). Each unit consisted of one common share and one warrant, each warrant entitling the holder thereof to acquire one common share at an exercise price of CDN \$10.50 and expiring April 10, 2023.

Off-Balance Sheet Arrangements

As of the date of this report, the Company had no off-balance sheet arrangements.

Outstanding Share Data

The following table summarizes the outstanding share capital as of the date of this MD&A:

<u>Type of Securities</u>	<u>Number of Common Shares issued or issuable upon conversion</u>
Common Shares ⁽¹⁾	33,967,399
Stock options ⁽²⁾⁽³⁾	1,715,079
Warrants	21,203,411
Broker warrants ⁽⁴⁾	1,324,626

Notes:

- (1) On August 29, 2019, the Company entered into a Common Share Purchase Agreement (the "Agreement") with Aspire Capital Fund, LLC. ("Aspire Capital") whereby Aspire Capital has committed to purchase up to US\$35 million of common shares of Titan at Titans request from time to time, until February 28, 2022. In addition to the initial transaction described in the unaudited condensed interim financial statements for the three and nine months ended September 30, on each of November 7, 8, 11 and 12, 2019, under the terms of the Agreement, the Company sold to Aspire 100,000 common shares each date, for a total of 400,000 common shares at an average price of US\$ 0.4252 per share for gross proceeds of US\$170,090.
- (2) The Company has outstanding options enabling certain employees, directors, officers and consultants to purchase common shares. Please refer to note 6(b) of the Unaudited Condensed Interim Financial Statements for terms of such options.
- (3) In July of 2019, the Company issued to two directors, an employee and a consultant 536,412 stock options previously accounted for in the MD&A published in July 2019. On September 9, 2019, the Company issued an additional 40,000 stock options to a consultant. The number of options expired or cancelled since June 30, 2019 were 90,115.
- (4) A total of 1,510,104 broker warrants were issued in connection with the March 2017, June 2017, December 2017, April 2018, August 2018 and March 2019 offerings. As of the date hereof, 1,324,626 broker warrants remain outstanding. Details include the following:
 - Pursuant to the agency agreement in respect of the March 2017 offering, in addition to the cash commission paid to the agents, 50,005 broker warrants were issued to the agents. Each broker warrant entitles the holder thereof to acquire one common share at the price of CDN \$10.50 for a period of 24 months following the closing date. These warrants expired in March 2019.
 - Pursuant to the agency agreement in respect of the June 2017 offering, in addition to the cash commission paid to the agents, 135,473 broker warrants were issued to the agents. Of these broker warrants, 106,070 were exercised and the balance of 3,463 expired in the three months ended June 30, 2019.
 - Pursuant to the agency agreement in respect of the December 2017 offering, in addition to the cash commission paid to the agents, 105,350 broker warrants were issued to the agents. Each broker warrant entitles the holder thereof to acquire one common share at the price of CDN \$15.00 for a period of 24 months following the closing date.
 - Pursuant to the agency agreement in respect of the April 2018 offering, in addition to the cash commission paid to the agents, 89,795 broker warrants were issued to the agents. Each broker warrant entitles the holder thereof to acquire one common share at the price of CDN \$9.00 for a period of 24 months following the closing date.
 - Pursuant to the agency agreement in respect of the August 2018 offering, in addition to the cash commission paid to the agents, 537,570 broker warrants were issued to the agents. Each broker warrant entitles the holder thereof to acquire one common share at the price of US \$2.50 for a period of 24 months following the closing date.
 - Pursuant to the agency agreement in respect of the March 2019 offering, in addition to the cash commission paid to the agents, 591,911 broker warrants were issued to the agents. Each broker warrant entitles the holder thereof to acquire one common share at the price of US \$3.40 for a period of 24 months following the closing date.

Accounting Policies

The accounting policies set out in the notes to the unaudited condensed interim financial statements for the three and nine months ended September 30, 2019 and the audited financial statements for the years ended December 31, 2018 have been applied in preparing the unaudited condensed interim financial statements for the three and nine months ended September 30, 2019, and the comparative information presented in the unaudited condensed interim financial statements for the three and nine months ended September 30, 2018.

These unaudited condensed interim financial statements have been prepared in accordance with accounting principles applicable to going concern, which contemplates that the Company will be able to realize its assets and settle its liabilities in the normal course as they come due during the normal course of operations for the foreseeable future. The Company has shareholders' deficiency of \$217,257,636 and current losses of \$44,319,942. The Company currently does not generate any revenue (other than interest income on its cash balances) and accordingly it is primarily dependent upon equity financing for any additional funding required for development and operating expenses. If additional funding is not available, the pace of the Company's product development plan will be further reduced. These conditions indicate the existence of a material uncertainty that may cast significant doubt on the ability of the Company to continue as a going concern if additional funding is not secured.

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 and subsequent 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, since 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), as well as the warrants issued August 10, 2018 and March 21, 2019 with the cashless exercise option. 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 the Company's warrant liability is initially based on level 2 (significant observable inputs) and at September 30, 2019 is based on level 1, quoted prices (unadjusted) in an active market, for the Company's listed warrants and level 2 for the Company's unlisted warrants.

Related Party Transactions

During the quarter ended September 30, 2019, 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's financial instruments consist of cash and cash equivalents, amounts receivable, accounts payable and accrued liabilities and warrant liability. 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.

Events Subsequent to the Quarter Ended September 30, 2019

Please see the sections "*Related Party Transactions*" and "*Financings*".

Outlook

During the third quarter of 2019, the Company was unsuccessful in securing sufficient capital to maintain product development and regulatory activities at a pace that would allow accomplishment of its previously stated milestones. As a result, on October 15, 2019, the Company announced that it had withdrawn all forward-looking statements included in its continuous disclosure documents with respect to the cost and timing of the development of its robotic surgical system beyond the fourth quarter of 2019. On November 7, 2019, the Company announced that it had determined not to proceed with the October Offering.

The Company does not have sufficient capital to continue the development of its robotic surgical system and there can be no assurance that the Company will be successful in securing additional financing. The Company is currently prioritizing the search for additional financing. Any further development of the Company's robotic surgical system is entirely contingent on the availability of such financing and, accordingly, any future development of the Company's robotic surgical system cannot be predicted at this time. The Company's Primary Supplier has ceased all work on the development of the Company's robotic surgical system and its Service Provider has initiated the Civil Claim against the Company. The Company has taken certain measures to reduce its cash burn over its historical rates, including a significant reduction in its rate of development, sourcing more cost-effective resources and reducing its general and administrative overhead where possible.

During the third quarter of 2019, the Company completed the GLP studies and HFE studies originally planned for completion during the second quarter of 2019. However, as data from the animal and cadaver studies and human factors studies was delayed, followed by delays in receiving documentation required from third parties, there will be a corresponding delay in the Company's planned IDE application to the FDA, which is itself contingent on the availability of sufficient financing. In addition, the animal studies and human factors studies have revealed additional product enhancements that the Company intends to implement before proceeding to human use. The pace of implementation of product enhancements and the production of documentation for the Company's IDE application are in turn paced by the availability of capital resources, which are currently insufficient. As a result of these factors, the submission of the IDE application to the FDA cannot be predicted at this time. Audits for ISO13485 were completed as planned during the third quarter.

The Company has leased a facility in Chapel Hill, North Carolina to house its U.S. operations. The lease location is in close proximity to product development partners and has access to the significant talent that resides in this medical technology hub.

Additional information relating to the Company, including Titan's Annual Information Form for the 2018 fiscal year, is available on SEDAR at www.sedar.com.

FORM 52-109F2
CERTIFICATION OF INTERIM FILINGS
FULL CERTIFICATE

I, David McNally, Chief Executive Officer of Titan Medical Inc., certify the following:

1. **Review:** I have reviewed the interim financial report and interim MD&A (together, the “interim filings”) of Titan Medical Inc.(the “issuer”) for the interim period ended September 30, 2019.
2. **No misrepresentations:** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.
3. **Fair presentation:** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.
4. **Responsibility:** The issuer’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in National Instrument 52-109 *Certification of Disclosure in Issuers’ Annual and Interim Filings*, for the issuer.
5. **Design:** Subject to the limitations, if any, described in paragraphs 5.2 and 5.3, the issuer’s other certifying officer and I have, as at the end of the period covered by the interim filings
 - (a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that
 - (i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared; and
 - (ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and
 - (b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer’s GAAP.
- 5.1 **Control framework:** The control framework the issuer’s other certifying officer and I used to design the issuer’s ICFR is Integrated Framework (COSO).

5.2 *ICFR – material weakness relating to design: N/A*

5.3 *Limitation on scope of design: N/A*

6. *Reporting changes in ICFR:* The issuer has disclosed in its interim MD&A any change in the issuer's ICFR that occurred during the period beginning on January 1, 2019 and ended on September 30, 2019 that has materially affected, or is reasonably likely to materially affect, the issuer's ICFR.

Date: November 14, 2019

(SIGNED) "David McNally"

David McNally

Chief Executive Officer

Titan Medical Inc.

FORM 52-109F2
CERTIFICATION OF INTERIM FILINGS
FULL CERTIFICATE

I, Stephen Randall, Chief Financial Officer of Titan Medical Inc., certify the following:

1. **Review:** I have reviewed the interim financial report and interim MD&A (together, the “interim filings”) of Titan Medical Inc.(the “issuer”) for the interim period ended September 30, 2019.
2. **No misrepresentations:** Based on my knowledge, having exercised reasonable diligence, the interim filings do not contain any untrue statement of a material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it was made, with respect to the period covered by the interim filings.
3. **Fair presentation:** Based on my knowledge, having exercised reasonable diligence, the interim financial report together with the other financial information included in the interim filings fairly present in all material respects the financial condition, financial performance and cash flows of the issuer, as of the date of and for the periods presented in the interim filings.
4. **Responsibility:** The issuer’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (DC&P) and internal control over financial reporting (ICFR), as those terms are defined in National Instrument 52-109 *Certification of Disclosure in Issuers’ Annual and Interim Filings*, for the issuer.
5. **Design:** Subject to the limitations, if any, described in paragraphs 5.2 and 5.3, the issuer’s other certifying officer and I have, as at the end of the period covered by the interim filings
 - (a) designed DC&P, or caused it to be designed under our supervision, to provide reasonable assurance that
 - (i) material information relating to the issuer is made known to us by others, particularly during the period in which the interim filings are being prepared; and
 - (ii) information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted by it under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and
 - (b) designed ICFR, or caused it to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer’s GAAP.
- 5.1 **Control framework:** The control framework the issuer’s other certifying officer and I used to design the issuer’s ICFR is Integrated Framework (COSO).

5.2 *ICFR – material weakness relating to design:* N/A

5.3 *Limitation on scope of design:* N/A

6. *Reporting changes in ICFR:* The issuer has disclosed in its interim MD&A any change in the issuer’s ICFR that occurred during the period beginning on January 1, 2019 and ended on September 30, 2019 that has materially affected, or is reasonably likely to materially affect, the issuer’s ICFR.

Date: November 14, 2019

(SIGNED) “Stephen Randall”

Stephen D. Randall
Chief Financial Officer
Titan Medical Inc.