



TINKERINE STUDIOS LTD.

MANAGEMENT DISCUSSION AND ANALYSIS

For the year ended December 31, 2018



Ditto™ Pro 3D Printer & Tinkerine U online 3D content

MANAGEMENT DISCUSSION AND ANALYSIS
FOR
Tinkerine Studios Ltd. (“the Company”)

President’s Message

To our shareowners:

2018 has come to a close. We appreciate you being with us as we develop and grow the business. 2019 brings with us exciting news to share as we progress forward. We look forward to what those opportunities bring for Tinkerine.

Moving forward, we will be trying a new format for the president’s message. The video can be found here: <https://tinkerine.com/investor/financial-statements/>

Eugene Suyu
Founder and CEO

Management's Discussion and Analysis of the Financial Position and Results of Operations

April 26, 2019

The following discussion and analysis regarding the financial position and results of operations provides information of the operations and financial results of Tinkerine Studios Ltd. ("the Company") that the management believes is relevant for the review, assessment and understanding the Company's audited consolidated financial statements for the year ended December 31, 2018 ("2018"). The Management's Discussion and Analysis (MD&A) should be read in conjunction with the audited consolidated financial statements, and the accompanying notes.

Background and Description of the Business

Tinkerine Studios Ltd is one of Canada's largest designer, producer and distributor of 3D printers, with its innovative software and through TinkerineU supports the growing related online educational content market.

Tinkerine designs, manufactures and distributes 3D printers in Canada, USA and to the Asia Pacific region. The Company's product offering is the Ditto and Ditto Pro which are well priced in each segment of the market and are gaining a reputation for quality 3D printers and innovative and high quality educational support. It is the online educational support for professional users, teacher and students that will drive the sales effort in 2019.

The financial information in this MD&A is based on the Company's audited consolidated financial statements that have been prepared in Canadian dollars, in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and the interpretations of the International Financial Reporting Interpretations Committee ("IFRIC").

Non-IFRS Measures

The accompanying audited consolidated financial statements have been prepared in accordance with International Financial Reporting Standards (IFRS) in Canadian dollars. Certain supplementary information and measures not recognized under IFRS are also provided in this MD&A where management believes they assist the reader in understanding Tinkerine's results. These measures are calculated by Tinkerine on a consistent basis unless otherwise specifically explained. These measures are further explained as follows:

EBITDA – means net earnings or losses before interest, taxes, depreciation, amortization, foreign exchange gains and losses and stock-based compensation. EBITDA is a metric used to assess the financial performance of an entity. Management believes that this metric assist in determining the ability of the Company to generate cash from operations.

Cash flow from operations – means cash flow from operations before changes in non-cash operating working capital. This measure is not intended to be an alternative to cash provided by operating activities as provided in the consolidated statements of cash flows, comprehensive income or other measures of financial performance calculated in accordance with IFRS. Cash flow from operations assists management and investors in analyzing operating performance and leverage.

Overview and Highlights

The Company's principal business is the design, manufacture and distribution of 3D printers, software and related online educational content. It is also the exclusive supplier of the filament that is used in the printer. Through 2018 the Company continued to reduce its expenses, add content and support courses through the Company's TinkerineU education platform and focused on its core business.

Specific highlights of the Company's activities for the year ended December 31, 2018 include:

- The focus for 2018 continued to be the professional development courses and challenges that provides educators, students and consumers with 3-D printer training, lesson plans and a forum to share content and best practices. This platform continues to be the primary marketing tool for Tinkerine;
- We also continued to integrate Tinkerine Studios 3-D printing software with other applications
- Maintained a commitment to Research & Development ("R&D") in both hardware and software

SELECTED ANNUAL INFORMATION

	Year ended December 31, 2018	Year ended December 31, 2017	Year ended December 31, 2016
Revenue	\$552,322	\$804,634	\$847,188
Net Loss	(\$394,023)	(\$359,686)	(\$809,888)
Net and Comprehensive Loss	(\$394,023)	(\$359,686)	(\$833,133)
Basic and Diluted Loss per common share	\$ (0.01)	\$ (0.01)	\$ (0.02)
Number of shares outstanding (weighted avg.)	49,238,349	49,238,349	48,738,349
Total Assets	\$364,348	\$598,580	\$783,077
Total long term liabilities	-	-	-

Deficit before interest, taxes, depreciation, amortization, foreign exchange gains and losses and stock-based compensation (DBITDA) increased the loss in 2018 to **\$358,080** from a loss of **\$259,416** in 2017, an increase in loss of \$98,664.

The Company's net loss for 2018 increased to \$394,023 compared to the net loss of \$359,686 in 2017, an increase in losses of \$34,337 for the year. This increase in losses is attributable to the decrease in our Canadian sales in the school channels, despite our controllable expenses and our total cash expenses (total expenses net of amortization and stock based compensation) decreasing to approximately \$578,628 in 2018 from \$618,766 in 2017, a decrease of \$40,138 in cash expenses.

RESULTS OF OPERATION

1. Revenue

Revenue was \$552,322 for the year ended December 31, 2018 versus \$804,634 for the year ended December 31, 2017 a decrease of \$252,312. This decrease in sales is attributed to the lower sales volume in the Canadian market primarily the result of the lower sales to the educational sector.

For 2018, revenue was represented by 67% hardware printer sales (2017 – 85%), 17% filament (2017 – 9%) and 17% services/miscellaneous (2017 – 6%) The lower percentage of hardware sales to 67% in 2018 from 85% in 2017, is the result of the less units sold in 2018. As a result, the percentage of total revenue in both filament sales and miscellaneous increased to 17% of total revenue from 9% and 6% respectively.

For 2018, revenue was represented by geographic segment as follows: Canada – \$275,117, United States – \$268,371 and Other - \$8,834 versus geographic segmented sales in 2017 of Canada – \$510,409, United States – \$263,582 and Other – \$30,643. While the Canadian market decreased year over year by \$235,292 as discussed earlier in this report, the US market increased by \$4,789 and the other market decreased by \$21,809.

The number of 3D printers sold in 2018 was represented by the sale of 205 3D printers compared to 382 3D printers sold in 2017, a 46% decrease year over year.

2. Gross Profit Margin

Gross profit for 2018 was lower at \$230,052 or 42% versus \$348,708 or 43% for 2017, a decrease of \$118,656 year over year. The gross margin percentage was relatively flat year over year, as margins from filament and miscellaneous sale maintained the gross margin percentage. Also contributing to the stable gross margin percentage were efficiencies in purchasing and supply chain management that maintained the cost of goods at the lower revenue.

3. Expenses

In 2018 the Company incurred \$624,075 of total expenses compared to \$708,394 in 2017, a reduction of \$84,319 in total expenses. The Company has continued its measures to decrease its controllable expenses and as a result the total cash expenses (total expenses net of amortization and stock based compensation) is approximately \$578,628 in 2018 versus \$618,766 in 2017 a decrease in total cash expenses of \$40,138. We have continued to review departmental budgets and corporate spending in all areas and these initiatives are further discussed below.

Highlighted quarterly expenses include the following:

- Remuneration and benefits is marginally higher at \$282,778 for 2018 versus \$275,961 for 2017, an increase of \$6,817. The net increase was due to the hiring of commission-based sales team while staff responsibilities in 2018 were also revised and redistributed to improve efficiencies in key functional areas that resulted in reducing operational staff. Also, the Chief Financial Officer was internally replaced in January 2016 by one of the founders, Justin Sy who continues his role as the Chief Financial Officer.
- Stock based compensation was expensed at \$6,843 in 2018 versus an expense of \$25,643 in 2017. This is a non-cash expense and represents the fair value of stock options granted and outstanding using the Black Scholes calculation. Under IFRS, the expense is recognized as the options vest each quarter with a larger proportion of the expense recognized in earlier quarters. There were no stock options issued in 2018. During 2018, 225,000 stock options were cancelled and the corresponding amount of \$13,173 was reallocated from reserves to Deficit.
- Professional and consulting fees were \$164,826 in 2018 versus \$159,134 in 2017. The Company regularly engages independent contractors for corporate finance and accounting services, research & development, sales and marketing and investor relations. We also regularly engaged legal counsel for intellectual property matters, employment law and general commercial matters and expect the Company's 2019 professional and consulting expenses to be approximately at a similar level.
- Product promotion, trade shows and travel were \$2,311 in 2018 versus \$5,484 in 2017. We amended our trade show strategy and focused on selective trade shows where key metrics including leads and attendee demographic and specific to educational focused industry versus expense were used to determine participation in the trade show. These costs predominantly relate to advertising and attending trade shows and while we strive to maintain meaningful marketing activities each quarter such costs are not incurred evenly from period to period but are based on the timing of the trade show.
- Research & development was \$3,748 in 2018 versus \$12,337 in 2017. The 2018 expenses are related to research and the cost of prototypes for ongoing development of the printers. During 2017 we re-assigned the R&D responsibility and allocated it to the founders to ensure better concept generation and faster development. All research and development are now performed internally with expenses primarily being testing of new systems and new parts designed by the founders.
- Rent and utilities were \$54,248 for 2018 versus \$65,542 in 2017, a saving of \$11,294, and reflects the lower basic rent rate after the Company moved its offices from 341 West 6th Avenue Vancouver BC, to 213A-8275 92nd Street Delta BC. The office is leased from a director and is situated in an area designed for improved logistics and the layout of the premises is designed for greater work flow and productivity for both production of the 3D printers and the open design improves collaboration of products like TinkU platform and other educational initiatives.

4. Other Income and Expenses

There were no other income and expenses for 2018

SUMMARY OF QUARTERLY INFORMATION

	Quarter ended:			
	"Q4 2018"	"Q3 2018"	"Q2 2018"	"Q1 2018"
	December 31	September 30	June 30	March 31
	2018	2018	2018	2018
Revenue	\$151,170	\$88,991	\$158,320	\$153,841
Net Income (Loss)	(\$96,869)	(\$104,420)	(\$77,876)	(\$114,857)
Net Comprehensive Income (Loss)	(\$96,869)	(\$104,420)	(\$77,876)	(\$114,857)
Basic and Diluted Loss per share	(\$0)	(\$0)	(\$0)	(\$0)
Number of shares outstanding (w. avg.)	49,238,349	49,238,349	49,238,349	49,238,349
	Quarter ended:			
	"Q4 2017"	"Q3 2017"	"Q2 2017"	"Q1 2017"
	December 31	September 30,	June 30	March 31
	2017	2017	2017	2017
Revenue	\$168,022	\$203,489	\$266,276	\$166,847
Net Income (Loss)	(\$176,677)	(\$31,159)	(\$35,137)	(\$116,712)
Net Comprehensive Income (Loss)	(\$176,677)	(\$31,159)	(\$35,137)	(\$116,712)
Basic and Diluted Loss per share	(\$0)	(\$0)	(\$0)	(\$0)
Number of shares outstanding (w. avg.)	49,238,349	49,238,349	49,238,349	49,238,349

Summary and discussion of Quarter to Quarter results.

The Company's quarterly revenue trend in 2018 differed to the revenue trend in the previous year, 2017. In previous years Q2 and Q3 accounted for more than 58% of the annual revenue, being the two strongest quarters. This year Q2 2018 revenue was \$158,320 and the Q3 2018 revenue was \$88,991, being 47% of the total revenue of \$552,322. The lower revenue in these two quarters coincides with lower education activity at the beginning (third quarter) and the end (second quarter) that we experienced during the 2018 school year. The Company intends to mitigate these seasonal trends in 2019 by establishing additional sales channels in 2019.

The Company's net loss from Q1 2018 to Q3 2018 has increased to \$297,153 versus the net loss in 2017 of \$183,008, an increase in the net loss for the first three quarters of \$114,145. This increase in net losses is the result of lower revenues during the first 3 quarters of 2018. The Company has decreased their operating expenses in key areas like rental for the premises as well as certain discretionary expenses while maintaining the sales efforts.

Summary and discussion of Fourth Quarter results.

Revenue for Q4 2018 was \$151,170 for the three months ended December 31st, versus \$168,022 for the comparative period Q4 2017, a decrease in revenue of \$16,852 or 10%.

For Q4 2018, revenue was represented by 88% hardware printer sales, 8% filament and 4% services/miscellaneous. In comparison for Q4 2017, revenue was represented by 83% hardware sales, 8% filament and 9% services/miscellaneous.

Gross profit decreased for the three months ended December 31, 2018 to \$49,141 from \$95,819 for the three months ended December 31, 2017. The gross margin percentage decreased in Q4 2018 to 33% from a gross margin percentage of 57% in Q4 2017. The impact on the gross margin was the result of end of the year adjustments

In Q4 2018, the Company incurred \$146,010 of total expenses compared to \$272,496 in Q4 2017, a decrease of \$126,486 in total expenses.

LIQUIDITY

As at December 31, 2018, the Company had working capital deficit of \$211,444 compared to net working capital of \$137,132 at December 31, 2017. The cash position is \$87,885 at December 31, 2018 compared to \$207,257 at December 31, 2017. There were no common share issues in 2018.

As at December 31, 2018 the Company's investment in inventory was \$174,383 with inventory finished goods being \$23,675 and raw materials of \$150,708, compared to investment in inventory of \$283,560 with finished goods of \$103,214 and raw materials of \$180,346 at December 31, 2017. Prepaid and Deposits were \$7,042 at December 31, 2018 versus \$15,167 in December 31, 2017. These payments are with regards to overseas supplier prepayment of raw material purchases.

At the time of release of this MD&A, the Company's cash position is \$82,661 and management believes the Company while presently operating with adequate working capital, will require a further injection of capital and therefore has issued a private placement of \$250,000 to continue a steady expansion of its business over the coming months. While our cash position is somewhat tight we believe we can manage our existing operations with the existing working capital. However, any unforeseen downturn in sales or, alternatively, pursuit of a more aggressive growth strategy would necessitate further equity investment.

CAPITAL RESOURCES

As at December 31, 2018, the Company's share capital was \$4,329,369 representing 49,238,349 issued and outstanding common shares without par value. There were no common shares issued in 2018 or 2017. Reserves represent the fair value of stock options outstanding and vested and warrants issued, is recorded at \$316,124 as at December 31st 2018. The net decrease of approximately \$6,330 in reserves during fiscal 2018 is the difference of the calculated charge for stock-based compensation of \$6,843 and the reversal of \$13,173 for stock options that were cancelled during the year.

As at December 31, 2018 the Company has 3,535,000 stock options outstanding with a weighted average exercise price of \$0.075 and an average remaining term of 1.93 years. There are no warrants outstanding as at December 31, 2018. Warrants outstanding of 6,600,000 at \$0.10 expired in March 2018 and were not exercised and therefore cancelled.

The Company has no debt facilities.

OFF-BALANCE SHEET ARRANGEMENTS

The Company does not have any off-balance sheet arrangements as at December 31, 2018 and to the date of this MD&A.

FINANCIAL INSTRUMENTS AND OTHER INSTRUMENTS

The Company does not have any financial instruments and other instruments as at December 31, 2018 and to the date of this MD&A.

Management believes current cash resources are likely insufficient to fund its business plan over the next twelve months and therefore may seek further equity injection.

OUTSTANDING SHARE INFORMATION

The Company's authorized capital is unlimited common shares without par value. As at December 31, 2018, the following common shares, options and share purchase warrants were outstanding:

As as December 31, 2018	Number of issued and outstanding
Common Shares	49,238,349
Stock Options	3,535,000
Total Shares - Fully diluted	52,773,349

TRANSACTIONS WITH RELATED PARTIES

Balances due to related parties are unsecured, non-interest bearing and have no fixed terms of repayment. Included in trade payables at December 31, 2018 is \$17,195 (December 31, 2017 - \$4,842) due to officers. These amounts were for company expenses and/or fees due and payable to the officers. Included in Prepaids and Deposits is an amount of \$2,435 that has been paid to a director. The Company signed a 3 year rental lease with a director in December 2016.

Key management personnel compensation

During the year ended December 31, 2018, the officers of the compensation of key management personnel as remuneration, fees and short-term benefits was \$162,529 (2017: \$139,095). In aggregate directors and officers received stock-based compensation of \$5,429 in 2018 (2017: \$15,139).

Officers and directors

The following individuals were elected directors at the June 28, 2018 AGM and continue to the date of this MD&A. There are no board changes in the current year.

- Eugene Suyu -- Chief Executive Officer, President and Director
- Justin Sy – Director and CFO
- Todd Blatt-- Director and Vice-President of Market Direction
- Bob Longo – Director
- Daniel Cugnet – Director

CHANGES IN ACCOUNTING POLICIES

The preparation of the annual financial statements and related MD&A have been prepared in conformity with IFRS, (see Note 2 of the Financial Statements).

Additional information relating to the Company is on SEDAR at www.sedar.com.

CAUTION REGARDING FORWARD-LOOKING INFORMATION

The MD&A contains forward-looking statements and forward-looking information (collectively, "forward-looking statements") within the meaning of applicable Canadian and US securities legislation. These statements relate to future events or the future activities or performance of the Company. All statements, other than statements of historical fact are forward-looking statements. Forward-looking statements are typically identified by words such as: believe, expect,

anticipate, intend, estimate, postulate and similar expressions, or which by their nature refer to future events. These forward looking statements include, but are not limited to, statements concerning:

- the Company's strategies and objectives, both generally and in respect of its existing business and planned business operations;
- the Company's plan to grow sales and expand its distribution network;
- the Company's future cash requirements;
- general business and economic conditions;
- the Company's ability to meet its financial obligations as they come due, and to be able to raise the necessary funds to continue operations; and,
- the timing, pricing, completion, regulatory approval of proposed financings if applicable.

Although the Company believes that such statements are reasonable, it can give no assurance that such expectations will prove to be correct. Inherent in forward looking statements are risks and uncertainties beyond the Company's ability to predict or control, including, but not limited to, risks related to the Company's ability to raise the necessary capital or to be fully able to implement its business strategies, and other risks identified herein under "Risk Factors".

The Company cautions investors that any forward-looking statements by the Company are not guarantees of future performance, and that actual results are likely to differ, and may differ materially, from those expressed or implied by forward looking statements contained in this report. Such statements are based on a number of assumptions, which may prove incorrect, including, but not limited to, assumptions about:

- general business and economic conditions;
- conditions in the financial markets generally, and with respect to the prospects for small capitalization commercial/technology companies specifically;
- the Company's ability to roll out its business plan which includes new product launches and associated planning in production, sales, distribution and marketing;
- the Company's ability to secure and retain employees and contractors to carry out its business plans;

These forward-looking statements are made as of the date hereof and the Company does not intend and does not assume any obligation, to update these forward-looking statements, except as required by applicable law. For the reasons set forth above, investors should not attribute undue certainty to or place undue reliance on forward-looking statements.

Historical results of operations and trends that may be inferred from the following discussion and analysis may not necessarily indicate future results from operations.

BUSINESS RISK FACTORS

Each of the following factors could have a material adverse effect on the Company's financial condition and results of operations.

3D Printing Industry: The Company operates in the desktop market (alternatively described as the consumer segment) of the 3D printing industry. The desktop market has existed since 2008. Although projected to grow at a high rate, this segment can be viewed as being an early adopter stage market. The ability for the Company to successfully negotiate this market represents a substantial risk.

New Product Launch: The Company has launched three generations of products since its inception in May 2012. Additionally, the Company is investing in software development and the development of online courses and curriculum for the education sector. The ability to manage such product launches in a timely and cost effective manner, and achieve the desired results in terms of market penetration, comprises a substantial risk

Dependence upon key personnel: The success of the Company's operations will also depend upon its ability to attract and retain talented and qualified personnel. The Company currently has a small management team, several of which can be considered key to expanding the Company's business operation, the loss of which would likely be detrimental to the Company.

Competition: The desktop market of the 3D printing industry is competitive with several direct competitors having much greater financial resources than the Company and operating experience. Furthermore, the desktop market is undergoing a period of rapid innovation with many of the participants striving to improve the technology and the flexibility of the products. These factors combine to make the competitive environment a substantial risk.

Financing risks: The Company's existing financial resources have come from the issue of new equity and, may be viewed as limited. Further the Company has negative operating cash flow and a cash balance of \$87,885 as at December 31, 2018. Therefore, without growth in operating cash flow the Company will require further equity capital injection(s) to sustain itself. There can be no assurance that the Company will be able to obtain adequate financing in the future or that the terms of such financing will be favorable.

Dilution to the Company's existing shareholders: Any future equity issues may be dilutive to present and prospective holders of common shares.

Regulatory requirements: The activities of the Company are subject to regulations governing various matters, including but not limited to standards and certifications for electronic devices, employment standards for employees engaged in manufacturing and assembly, export and import regulations and duties, and sales and goods and service tax compliance. While the Company endeavors to remain compliant in all such aspect, the inability to do so could have an adverse effect on its ability to continue to operate.

Foreign currency risk: The Company's functional and reporting currency is the Canadian dollar. The Company incurs foreign currency risk on purchases that are denominated in a currency other than the functional currency of the Company, which will have an impact on the profitability of the Company and may also affect the value of the Company's assets, liabilities and the amount of equity. The Company's main risks are associated with fluctuations in the US dollar as a substantial portion of its parts and materials purchases are denominated in US dollars and a portion of its sales are denominated in US dollars. The Company does not utilize foreign exchange hedging contracts.

<p>REGISTERED OFFICE 1500-1055 West Georgia Street Vancouver, British Columbia, Canada V6E 4N7</p> <p>HEAD OFFICE and OPERATIONS</p> <p>Tinkerine Studios Ltd. 213A - 8275 92 Street Delta, British Columbia, Canada V4G 0A4</p> <p>OFFICERS & DIRECTORS</p> <p>Eugene Suyu <i>Director and CEO</i></p> <p>Justin Sy <i>Director and CFO</i></p> <p>Todd Blatt <i>Director</i></p> <p>Bob Longo <i>Director</i></p> <p>Dan Cugnet <i>Director</i></p>	<p>LISTINGS</p> <table border="0"> <tr> <td>TSX Venture Exchange:</td> <td>TTD.V</td> </tr> <tr> <td>OTC Pink:</td> <td>TKSTF</td> </tr> <tr> <td>FSE:</td> <td>WB6B</td> </tr> </table> <p>CAPITALIZATION (as at December 31, 2018) Shares Issued: 49,238,349</p> <p>TRANSFER AGENT Computershare 3rd Floor, 510 Burrard Street Vancouver, British Columbia V6C 3B9</p> <p>AUDITOR Dale Matheson Carr-Hilton LaBonte LLP 1500 – 1140 West Pender Street Vancouver, British Columbia V6E 4G1</p> <p>LEGAL COUNSEL McMillan LLP Royal Centre 1500-1055 West Georgia Street Vancouver, British Columbia V6E 4N7</p>	TSX Venture Exchange:	TTD.V	OTC Pink:	TKSTF	FSE:	WB6B
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