

California Nanotechnologies Corp.
For the three and nine months ended
November 30, 2018

MANAGEMENT DISCUSSION AND ANALYSIS

This Management Discussion and Analysis (“MD&A”) of financial condition and results of operations should be read in conjunction with the condensed consolidated financial statements and related notes of California Nanotechnologies Corp. (the “Company” or “Cal Nano”) for the three and nine months ended November 30, 2018. The Company reports its financial position, results of operations and cash flows in accordance with International Financial Reporting Standards (“IFRS”), as issued by the International Accounting Standards Board (“IASB”). The Company’s functional and presentation currency is United States (“US”) dollars and all amounts in this MD&A are expressed in US dollars. This MD&A has been completed as of December 13, 2018.

A. Company Overview

Cal Nano’s mission is to pioneer and commercialize next-generation Nanophase and advanced materials and products to fulfill rising industry demand. Cal Nano’s technologies enhance material performance by improving engineering properties. Cal Nano’s primary technologies include Spark Plasma Sintering and cryogenic milling. The Company is now focusing on commercialization efforts. Target markets are the microchip fabrication, aerospace, sports and recreation, defense, automotive, medical, and the oil and gas industries.

As the Official North American Technical and Training Partner of Fuji-SPS, pioneer of Spark Plasma Sintering (“SPS”) technology, Cal Nano offers both SPS services and equipment support. SPS is the leading technology for sintering Nanophase, Functionally Graded, Diffusion Bonded, Thermoelectric, and other advanced materials. The Company is enhancing the technology and exploring more potential commercial opportunities via extensive collaborations and partnerships with select universities and tier one production suppliers. The Company recently purchased a Fuji Mark V SPS for full-scale production activities.

Since inception, Cal Nano has been actively building industry recognition through published papers and other scientific endeavors. A listing of trade show activities is included at the end of this document.

B. Markets

Cal Nano currently services customers in the micro-chip fabrication, aerospace, academic, automotive, and sporting industries. A related company, Omni-Lite Industries, has many long-standing relationships in these areas, providing further access to future commercial customers.

C. Results of Operations Nine Months Ended November 30, 2018

Revenue: For the nine months ended November 30, 2018, the Company reported revenue of \$588,637 compared to \$351,650 from the prior nine months resulting in an increase of 67%.

Sales by segment are summarized below:

Division	Spark Plasma Sintering	Research and Development	Sport and Recreation
Nine months 2018	65%	21%	14%
Nine months 2017	60%	19%	21%

Net Income: Net loss for the fiscal period ended was \$6,974 compared to \$96,780 in the prior nine months. Depreciation expense rose as the Company began operating the additional SPS equipment in October 2017 that was purchased for \$675,750.

Operating Expenses: Overall operating expenses of \$361,327 decreased by 11% when compared to the prior nine months.

Other income: Interest expense increased due to the equipment loan used to purchase the additional SPS equipment.

Earnings (loss) per share: Basic loss per share was \$nil. The weighted average number of shares was 31,430,296.

The diluted loss per share was \$nil. At November 30, 2018, the diluted weighted average number of shares was 31,430,296.

The basic gain (loss) per common share is calculated using net income (loss) divided by the weighted-average number of common shares outstanding. The diluted gain (loss) per common share is calculated using net income (loss) divided by the weighted-average number of diluted common shares outstanding.

1,975,000 (September 30, 2017 – 2,300,000) options were excluded in calculating the weighted-average number of diluted common shares outstanding for the period ended November 30, 2018 and 2017, because the Company was in a net loss position and therefore any exercise would be anti-dilutive.

SUMMARY OF FINANCIAL HIGHLIGHTS (U.S. \$)

All figures in US dollars unless noted.

	For the nine months ended November 30, 2018	For the nine months ended November 30, 2017	% Increase
Revenue	\$ 588,637	\$ 351,650	67%
Cash flow provided by (used for) operations	103,674	(17,112)	706%
Net loss	(6,974)	(96,780)	93%
EPS (LPS)	nil	nil	93%

Results of Operations Three Months Ended November 30, 2018

Revenue: For the three months ended November 30, 2018, the Company reported revenue of \$230,918 compared to \$157,555 from the prior three months resulting in an increase of 47%.

Sales by segment are summarized below:

Division	Spark Plasma Sintering	Research and Development	Sport and Recreation
Three months 2018	65%	33%	3%
Three months 2017	60%	22%	19%

Net Income: Net income for the three months ended was \$31,482 compared to a net loss of \$37,339 in the prior three months. SPS revenue increased rose as the Company began operating the additional SPS equipment in October 2017.

Operating Expenses: Overall operating expenses of \$132,983 decreased by 5% when compared to the prior three months.

Other income: There was no gain or loss on the share purchase warrants in the three months ended November 30, 2018 due to their expiration at April 8, 2018 as compared to the prior year three months loss of \$24,747.

Earnings (loss) per share: Basic loss per share was \$nil. The weighted average number of shares was 31,430,296.

The diluted loss per share was \$nil. At November 30, 2018, the diluted weighted average number of shares was 31,430,296.

The basic gain (loss) per common share is calculated using net income (loss) divided by the weighted-average number of common shares outstanding. The diluted gain (loss) per common share is calculated using net income (loss) divided by the weighted-average number of diluted common shares outstanding.

1,975,000 (September 30, 2017 – 2,300,000) options were excluded in calculating the weighted-average number of diluted common shares outstanding for the period ended November 30, 2018 and 2017, because the Company was in a net loss position and therefore any exercise would be anti-dilutive.

The following table summarizes selected quarterly information from the last eight quarters.

ALL FIGURES IN US DOLLARS UNLESS NOTED

	November 30, 2018	August 31, 2018	May 31, 2018	February 28, 2018	November 30, 2017	August 31, 2017	May 31, 2017	February 28, 2017
Revenue	\$230,918	\$175,170	\$182,549	\$196,925	\$157,555	\$77,372	\$116,723	\$78,071
Cash flow from (used for) operations	59,721	24,364	19,589	53,859	27,941	10,252	(55,305)	(108,564)
Net income (loss)	31,482	(23,812)	(14,644)	49,466	(37,339)	(71,442)	12,001	(162,172)
EPS (LPS)	.001	(.001)	(.001)	.002	(.001)	(.002)	.001	(.005)

Liquidity and Capital Resources

The following table summarizes the Company's cash flows by activity and cash on hand.

	November 30, 2018	November 30, 2017
Net cash provided (used) by operating activities	\$ 103,674	\$ (17,112)
Net cash provided (used) by financing activities	(73,686)	634,390
Net cash used by investing activities	(20,589)	(621,951)
Net increase (decrease) in cash	9,399	(4,673)
Cash at the beginning of the period	36,192	18,257
Cash at the end of the period	45,591	13,584

At November 30, 2018, the source of liquidity was cash from operating activities. The cash balance was \$45,591. At the end of nine months, the Company's working capital deficiency (current assets less current liabilities) was \$1,434,872.

Net cash provided by operating activities increased to \$103,674 as sales increase and operational expenses decrease as compared to the prior year nine months.

Cash flow used by financing activities was \$73,686 as the Company makes payments on bank indebtedness used to purchase the additional SPS equipment in October 2017.

Cash flow used by investing activities was \$20,589 to purchase equipment.

The Company's functional and reporting currency is US dollars; however, the calculation of income tax expense is based on income in the currency of the country of origin. As such, the Company is continually subject to foreign exchange fluctuations, particularly as the Canadian dollar moves against the US dollar.

The Company manages its exposure to foreign currency fluctuations by maintaining foreign currency bank accounts to offset foreign currency payables and planned expenditures. The Company reports in its functional currency, the US dollar.

The Company does not have any off-statement of financial position arrangements.

D. Future Developments

With the potential of over 80% of future production efforts focusing on SPS technology, the Company has purchased a large Fuji Mark V SPS system. Based on a research study completed late 2016, it was felt that SPS is quickly becoming an advanced manufacturing solution for a wide range of industries. Cal Nano's efforts are focused on the micro-chip fabrication, nuclear and aerospace industries.

Additional developments undertaken at Cal Nano have made milled "nano alloys" significantly more feasible for a large array of performance components and applications. Cal Nano plans to pursue commercialization of "nano alloys" via several production techniques including bulk consolidation, thermal spray and the cold heading of individual nano components. To help develop these products, several renowned industry experts have joined the Cal Nano team to assist in executing these opportunities.

In 2013, the Company became the exclusive marketing partner of Fuji-SPS, the leading manufacturer of SPS equipment. This relationship places Cal Nano as exclusive Technical and Marketing Partner in North America. To complement the existing equipment at Cal Nano, larger production scale equipment is being evaluated as customers for potential production products are being developed by Cal Nano, its partners, and collaborators. Cal Nano has recently completed a working proto-type for one of these Customers.

The Company has successfully installed several new SPS systems in the U.S., Mexico and Canada for which it received commission and services revenue. The Company plans to continue SPS system installations in the coming years for both universities and industrial companies.

In June 2014, the Company purchased a larger mill, increasing its cryogenic milling capacity by a factor of six, which is now operational. Since March 2015, the Company has received several larger development orders from a large, Seattle-based airframe manufacturer, which will require Cal Nano to utilize its new larger milling capacity. Under this program Cal Nano will subcontract major portions of the analytical work to its growing academic partners. The Company has received a patent which outlines equipment designs and concepts which make the cryogenic milling economically feasible on a large scale.

The successful launch and continued success of the world's highest performance commercial track shoe, Adidas' flagship, "adiZero Prime", has increased "nano alloy" product sales overall. Continuous efforts to reduce the cost of nano-engineered alloys could allow the current and developmental technologies to be applied to the much larger volume "replaceable spike" market, in which several large customers have expressed significant interest. In May 2018, the Company started work on a new design and the development of a replaceable track spike for Adidas.

E. Risk Factors

The Company is subject to a number of risks as outlined below.

Experimental Field

Cal Nano is engaged in the research and development of new materials with the goal of commercializing viable products. The nanotechnology industry and specifically the production of nanocrystalline materials require extensive experimental effort and can require significant investment. Customers may be hesitant to implement any new materials developed without extensive and time-consuming testing.

No Assurance of Commercial Production

Cal Nano has historically been a research and development firm. The Company is now entering the commercial production phase of its growth, with the procurement of the large Fuji Mark V system. There is no assurance that it will achieve commercial levels of production or sales for any product.

Relationships with Customers

The success of Cal Nano is directly related to the strength of its relationships with and the economic success of its larger customers. Should Cal Nano's relationships with these customers become strained or the profitability of these customers become negatively affected, the Company's profitability may be impacted.

Competition

Cal Nano is engaged in the technology industry. There is a high degree of competition in these industries which could impact Cal Nano's ability to find and keep customers.

Potential Fluctuations in Financial Results

If Cal Nano's future anticipated revenues are not realized on a timely basis, Cal Nano's financial results could be materially adversely affected.

Financial results in the future may be influenced by these or other factors.

Management of Growth

Any expansion of Cal Nano's business may place a significant strain on its financial, operational and managerial resources. There can be no assurance that Cal Nano will be able to manage its operations and financial assets successfully in order to manage any growth it undertakes. Any inability of Cal Nano to manage growth successfully could have a material adverse effect on Cal Nano's business, financial condition and results of operations.

Government Regulations

Cal Nano may be subject to various laws, regulations, regulatory actions and court decisions that may have negative effects on Cal Nano. Changes in the regulatory environment imposed upon Cal Nano could adversely affect the ability of Cal Nano to attain its corporate objectives.

Reliance on Key Personnel and Consultants

There can be no assurance that any of Cal Nano's directors, officers or employees will remain with Cal Nano or that, in the future, directors, officers or employees will not organize competitive businesses or accept employment with companies competitive with Cal Nano.

Additional Financing Requirements and Access to Capital

Cal Nano may require additional financing to implement its business plan. The ability of the Company to arrange such financing in the future will depend in part upon the prevailing capital market conditions as well as the business performance of Cal Nano. There can be no assurance that Cal Nano will be successful in its efforts to arrange additional financing, if needed, on terms satisfactory to Cal Nano. If additional financing is raised by the issuance of shares from the treasury of Cal Nano, control of Cal Nano may change and shareholders may suffer additional dilution. There can be no assurance that Cal Nano will generate cash flow from operations necessary to support the continuing operations of Cal Nano.

F. Disclosure Controls and Procedures

Disclosure controls and procedures have been designed to ensure that information required to be disclosed by the Corporation is accumulated and communicated to our management as appropriate to allow timely decisions regarding disclosure. The Company's Chief Executive Officer and a Director have concluded, based on their evaluation at November 30, 2018, that the Company's disclosure controls and procedures are effective to provide reasonable assurance that material information related to Cal Nano, is made known to them by employees or third party consultants working for the Company. It should be noted that while the Company's Chief Executive Officer and a Director believe that the disclosure controls and procedures will provide a reasonable level of assurance and that they are effective, they do not expect that the disclosure controls and procedures will prevent all errors and fraud. A control system, no matter how well conceived or operated, can provide only reasonable, not absolute assurance that the objectives of the control system are met.

G. Outstanding Share Capital

At December 13, 2018:

- Common shares issued and outstanding: 31,430,296
- Stock options:

<u>Description</u>	<u>Quantity</u>
Options outstanding – November 30, 2018	1,975,000
Options expired	<u>(400,000)</u>
Options outstanding – December 13, 2018	1,575,000
Options exercisable – November 30, 2018	1,241,662
Options forfeited	<u>(400,000)</u>
Options exercisable – October 10, 2018	841,662

H. Transactions with Related Parties

Advances from related parties are from a related entity that owns 18% of the Company's shares. The advances bear interest at 2% per annum and is due upon demand. There are no set terms for repayment and the loan is secured by all the assets of the Company. Interest was paid in the amount of \$nil (2017 - \$1,719) on the advances with accrued interest in the amount of \$173,968 (February 28, 2018 – \$149,722). This related entity also engaged with the Company for revenue of \$11,739 (2017 – \$30,213) and incurred expenses of \$28,353 (2017 – \$41,552). The transactions are considered to be in the normal course of operations and are initially recognized at their fair value.

I. Board of Directors

Some of the Company's directors are material shareholders.

J. Financial instruments

As part of its operations, the Company utilizes a number of financial instruments. It is management's opinion that the Company is not exposed to significant interest, currency or credit risks arising from these financial instruments except as otherwise disclosed. The Company manages these risks by operating in a manner that minimizes risk exposure to the extent practical.

Financial instruments of the Company consist of cash, accounts receivable, loan receivable, share purchase warrants, accounts payable and accrued liabilities, finance lease obligation, bank indebtedness and advances from related parties.

	November 30, 2018		February 28, 2018	
	Carrying Value	Fair Value	Carrying Value	Fair Value
At fair value through profit or loss				
Cash	\$ 45,591	\$ 45,591	\$ 36,192	\$ 36,192
Share purchase warrants	-	-	11	11
Loans and receivables				
Accounts receivable	26,055	26,055	50,126	50,126
Loan receivable	2,500	2,500	-	-
Other liabilities				
Accounts payable and accrued liabilities	117,705	117,705	166,816	166,816
Finance lease obligation	1,041	1,041	1,707	1,707
Bank indebtedness	726,980	726,980	800,000	800,000
Advances from related parties	1,045,522	1,045,522	1,045,522	1,045,522

The table below sets out fair value measurements using fair value hierarchy at November 30, 2018.

	Total	Level 1	Level 2	Level 3
Assets				
Cash	\$ 45,591	\$ 45,591	\$ -	\$ -

There have been no transfers during the period between Levels 1, 2 and 3.

The carrying values of cash, accounts receivable, loan receivable, accounts payable and accrued liabilities approximate their fair value due to their short-term nature.

The fair value of the Company's advances from related parties, finance lease obligation and bank indebtedness approximate their fair values due to the interest rates applied to these instruments, which approximate market interest rates.

As disclosed above, the Company holds various forms of financial instruments. The nature of these instruments and the Company's operations expose the Company to foreign currency risk. The Company manages its exposure to these risks by operating in a manner that minimizes its exposure to the extent practical. The Company does not use off balance sheet contracts to manage these risks.

Liquidity Risk

The Company defines liquidity risk as the financial risk that the Company will encounter difficulties meeting its financial obligations. The Company's objective for managing liquidity risk is to ensure that it will have sufficient liquidity to meet liabilities when due. This risk is partially mitigated by managing the cash flow through controlling receivables and payables to vendors and related parties. At November 30, 2018, the Company had a working capital deficiency of \$1,434,872 (February 28, 2018 – \$1,434,912).

Foreign currency risk

A portion of the Company's operations are located outside of the US and, accordingly, the related financial assets and liabilities are subject to fluctuations in exchange rates.

The Company manages its exposure to foreign currency fluctuations by maintaining foreign currency bank accounts to facilitate foreign currency payables and planned expenditures. The Company reports in its functional currency, the US dollar. At November 30, 2018, the Company had the following balances denominated in Canadian dollars. The balances have been translated into US currency in accordance with the Company's foreign exchange accounting policy.

	US Dollar November 30, 2018	US Dollar February 28, 2018
Cash	\$ 47	\$ 1,581
Accounts payable and accrued liabilities	23,742	36,947

The Company operates with a US dollar functional currency which gives rise to currency exchange rate risk on the Company's Canadian dollar denominated monetary assets and liabilities, such as Canadian dollar bank accounts and accounts payable, as follows:

	Impact on Net Income
US Dollar Exchange Rate – 10% increase	\$ 2,369
US Dollar Exchange Rate – 10% decrease	(2,369)

Credit risk

The Company manages credit risk by dealing with financially sound customers, based on an evaluation of the customer's financial condition. For the nine months ended November 30, 2018, the Company was engaged in contracts for products with three (November 30, 2017 – one) customers in excess of 10% of revenue, which accounted for \$387,053 (November 30, 2017 - \$139,298) or 66% (November 30, 2017 – 40%) of the Company's total revenue. The maximum exposure to credit risk is the carrying value of accounts receivable and cash. Four (2017 - four) customers had an outstanding balance in excess of 10% of accounts receivable, which accounted for \$23,121 (2017 - \$17,902) or 89% (2017 – 78%) of the Company's total accounts receivable balance. No allowance for doubtful accounts was recorded. The table below provides an analysis of our current and past due but not impaired accounts receivables.

	Total	Current	≤ 30 days	> 30 days ≤ 60 days	>60 days ≤ 90 days	> 90 days
November 30, 2018	\$ 26,055	\$ 17,006	\$ 5,968	\$ -	\$ -	\$ 3,081
February 28, 2018	\$ 50,126	\$ 43,468	\$ 5,463	\$ -	\$ 1,195	\$ -

K. Capital Disclosures

The Company manages its capital to maintain its ability to continue as a going concern and to provide returns to shareholders and benefits to other stakeholders. The capital

structure of the Company consists of cash and equity comprised of issued capital, contributed surplus and deficit.

The Company manages its capital structure and makes adjustments to it in light of economic conditions. The Company, upon approval from its Board of Directors, will balance its overall capital structure through new share issues or by undertaking other activities as deemed appropriate under the specific circumstances.

The Company is not subject to externally imposed capital requirements and the Company's overall strategy with respect to capital risk management remains unchanged from the fiscal period ended November 30, 2018.

L. Conferences

CONFERENCES ATTENDED IN 2018

- 4th International Workshop on Spark Plasma Sintering, Cagliari, Italy, co-sponsor, May 23-25, 2018
- Materials Science & Technology (MS&T) 2018, Columbus, OH, attendee, October 14-18, 2018

CONFERENCES ATTENDED IN 2017

- The Minerals, Metals & Material Society (TMS) 2017, San Diego, CA, exhibitor, February 26, 2017 – March 2, 2017
- International Conference on Thermoelectrics 2017, Pasadena, CA, exhibitor, July 31, 2017 – August 3, 2017
- International Conference on Sintering 2017, San Diego, CA, exhibitor, November 12-16, 2017

CONFERENCES ATTENDED IN 2016

- Ceramics Expo 2016, Cleveland, OH, exhibitor, April 25-27, 2016
- Materials Science & Technology (MS&T) 2016, Salt Lake City, UT, exhibitor, October 23-27, 2016

Intention of management's discussion and analysis

This MD&A is intended to provide an explanation of financial and operational performance compared with prior periods and the Company's prospects and plans. It provides additional information that is not contained in the Company's financial statements.

Additional information

Further information regarding California Nanotechnologies Corp. can be accessed under the Company's public filings found at www.sedar.com.

The information contained in this discussion may be considered to contain forward-looking statements. Such forward-looking statements address future events and conditions and are subject to risks and uncertainties that could cause actual results to differ materially from those contemplated. There is no representation by the Company that actual results will be the same in whole or in part as implied by the forward-looking statements provided.