

California Nanotechnologies Corp.  
For the period ended November 30, 2017

## MANAGEMENT DISCUSSION AND ANALYSIS

This Management Discussion and Analysis (“MD&A”) should be read in conjunction with the Consolidated Financial Statements and related notes of California Nanotechnologies Corp. (the “Company” or “Cal Nano”) for the period ended November 30, 2017. The Company’s reporting currency is in U.S. dollars and all amounts in this MD&A are expressed in U.S. dollars. 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”). This MD&A has been completed as of January 28, 2018.

### A. Company Overview

Cal Nano’s mission is to pioneer and commercialize next-generation Nanophase materials and products to fulfill rising industry demand. Cal Nano’s technologies enhance material performance by improving engineering properties. 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. Financial Results

**Revenue:** For the nine month period ended November 30, 2017, the Company reported revenue of \$351,650 compared to \$465,463 from the prior period, a decrease of 24%.

Sales by division are summarized below:

<b>Division</b>	<b>Spark Plasma Sintering</b>	<b>Research and Development</b>	<b>Sport and Recreation</b>
<b>Nine months 2017</b>	<b>60%</b>	<b>19%</b>	<b>21%</b>
Nine months 2016	57%	18%	25%

**Net Income:** Net loss for the period ended was \$96,780 compared to a loss of \$107,591 in the prior period. Salaries, wages and benefits were the greatest expense items. Research and development may increase as the Company services the growth in several divisions. Expenses may also rise, as the Company began operating the additional SPS equipment in October 2017.

**Operating Expenses:** Overall operating expenses of \$406,508 increased by 13% when compared to the prior period.

**Other income:** In the current period, the unrealized gain on the change in the fair value of share purchase warrants was \$44,267.

**Earnings (loss) per share:** Basic loss per share was \$0.01. The weighted average number of shares was 31,430,296.

The diluted loss per share was \$0.01. At November 30, 2017, 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.

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

All figures in US dollars unless noted.

	<b>For the period ended November 30, 2017</b>	<b>For the period ended November 30, 2016</b>	<b>% Increase (Decrease)</b>
Revenue	\$ 351,650	\$ 465,463	(24%)
Cash flow used for operations <sup>(1)</sup>	(76,773)	(68,198)	(13%)
Net income (loss)	(96,780)	(107,591)	10%
EPS (LPS)	(0.01)	(0.01)	-

## Selected Quarterly Information

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

ALL FIGURES IN US DOLLARS UNLESS NOTED

	November 30, 2017	August 31, 2017	May 31, 2017	February 28, 2017	November 30, 2016	August 31, 2016	May 31, 2016	February 29, 2016
Revenue	\$157,555	\$77,372	\$116,723	\$78,071	\$261,996	\$107,272	\$96,195	\$101,547
Cash flow from (used for) operations <sup>(1)</sup>	17,930	(57,134)	(37,569)	(106,836)	27,636	(13,542)	(82,292)	(109,232)
Net income (loss)	(37,339)	(71,442)	12,001	(162,172)	(13,623)	(24,287)	(69,681)	(78,061)
EPS (LPS)	(.001)	(.002)	.001	(.005)	(.001)	(.001)	(0.002)	(.001)

<sup>(1)</sup> Cash flow from (used for) operations is a non-GAAP term requested by the oil and gas investment community that represents net earnings adjusted for non-cash items including depreciation, depletion and amortization, deferred taxes, asset write-downs and gains (losses) on sale of assets, if any.

## Liquidity and Capital Resources

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

	November 30, 2017	November 30, 2016
Net cash used for operating activities	\$ (17,112)	\$ (89,565)
Net cash provided (used) by financing activities	634,390	47,069
Net cash used for investing activities	(621,951)	-
Net increase (decrease) in cash	(4,673)	(42,496)
Cash at the beginning of the period	18,257	108,687
Cash at the end of the period	13,584	66,191

At November 30, 2017, the sources of liquidity were cash from operating activities. The cash balance was \$13,584. At the end of period, the Company's working capital deficiency (current assets less current liabilities) was \$1,462,362.

Net cash used for operating activities increased to \$17,112.

Cash flow provided by financing activities was \$634,390.

Effective September 2016, the Company established a new long-term primary credit facility (the "Credit Agreement") with total credit facilities of up to \$250,000, comprised of a commercial advance line in the amount of \$250,000, bearing interest at the Prime Rate plus one-half of one percent (0.50%) maturing on May 31, 2018. The Credit Agreement is secured by all the accounts, inventory, equipment, and general intangibles of the Company and guaranteed by a related party.

Effective February 2017, the Company increased the long-term primary credit facility up to \$800,000, adding an equipment advance line in the amount of \$550,000, bearing interest at the prime rate plus one-half of one percent (0.50%) maturing on February 28, 2023.

On April 9, 2014, the Company completed a private placement of 5,290,296 units, with each unit consisting of one common share and one-half of one common share purchase warrant, at a price of \$0.135 CAD. The purchase warrants had a one year term with an exercise price of \$0.225 CAD. The private placement resulted in the Company receiving total gross proceeds of \$714,190 CAD. Since April 9, 2014 various extensions of the warrants' expiration date have been approved by the TSV Venture Exchange with a current extension of the share purchase warrants to April 8, 2018.

Cash used for investing activities was \$621,951. During the period, the Company added a Fuji Mark V SPS Production system.

The Company's functional and reporting currency is in U.S. 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 U.S. 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 U.S. dollar.

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

## D. Future Developments

With the potential of over 70% 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 growing application and volume requirements for cryo-milled materials have refocused Company plans and developments, requiring the Company to scale up towards commercialization while reducing the cost of cryo-milled materials. In this regard in June 2014, the Company purchased a larger mill, increasing its 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. This new order is indicative of the new scale of development that the Company is now capable of undertaking. The Company has submitted a patent application 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.

## 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, 2017, 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 January 28, 2018:

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

<u>Description</u>	<u>Number</u>
Options outstanding at January 28, 2018	2,300,000
Options exercisable at January 28, 2018	1,333,326

#### H. Transactions with Related Parties

Advances from related parties are from a related entity. The advances bear interest at 2% per annum and are due upon demand. There are no set terms for repayment and the loan is secured by all the assets of the Company. Interest in the amount of \$1,719 (November 30, 2016 - \$15,593) was paid on the advances with accrued interest in the amount of \$154,951 (November 30, 2016 - \$137,541). The related party engaged with the Company for revenue of \$30,213 (November 30, 2016 - \$159,993) and incurred expenses of \$41,552 (November 30, 2016 - \$44,955). The transactions are considered to be in the normal course of operations and are initially recognized at their fair value.

#### I. Third Party Investor Relations Contracts

Mikel Damke of Victoria was engaged in a one year contract, as executive assistant to the CEO for investor relations on November 24, 2016.

## J. Board of Directors

Some of the Company's directors are material shareholders.

## K. 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, share purchase warrants, accounts payable and accrued liabilities, finance lease obligation, bank indebtedness and advances from related parties.

	November 30, 2017		February 28, 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
<b>At fair value through profit or loss</b>				
Cash	\$ 13,584	\$ 13,584	\$ 18,257	\$ 18,257
Share purchase warrants	24,747	24,747	69,014	69,014
<b>Loans and receivables</b>				
Accounts receivable	22,944	22,944	67,356	67,356
<b>Other liabilities</b>				
Accounts payable and accrued liabilities	144,009	144,009	88,071	88,071
Finance lease obligation	1,919	1,919	2,529	2,529
Bank indebtedness	800,000	800,000	165,000	165,000
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, 2017.

	Total	Level 1	Level 2	Level 3
Assets				
Cash	\$ 13,584	\$ 13,584	\$ -	\$ -
Share purchase warrants	24,747		24,747	

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

The fair value of the Company's advances from related parties, finance lease obligation and line of credit 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, 2017, the Company had a working capital deficiency of \$1,462,362 (2016 – \$1,218,575).

Foreign currency risk

A portion of the Company’s operations are located outside of the U.S. 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 U.S. dollar. At November 30, 2017, the Company had the following balances denominated in Canadian dollars. The balances have been translated into U.S. currency in accordance with the Company’s foreign exchange accounting policy.

	<b>U.S. Dollar November 30, 2017</b>	U.S. Dollar February 28, 2017
Cash (bank overdraft)	\$ 560	\$ (26)
Accounts payable and accrued liabilities	<b>35,497</b>	32,744

The Company operates with a U.S. 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:

	<b>Impact on Net Income</b>
U.S. Dollar Exchange Rate – 10% increase	\$ 3,494
U.S. Dollar Exchange Rate – 10% decrease	<b>(3,494)</b>

### 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 period ended November 30, 2017, the Company was engaged in contracts for products with with one (November 30, 2016 – three) customer in excess of 10% of revenue, which accounted for \$139,298 (November 30, 2016 - \$232,666) or 40% (November 30, 2016 – 50%) of the Company's total revenue. The maximum exposure to credit risk is the carrying value of accounts receivable and cash. Four (2016 – three) customers had an outstanding balance in excess of 10% of accounts receivable, which accounted for \$17,902 (2016 - \$17,934) or 78% (2016 – 69%) 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.

	<b>Total</b>	<b>Current</b>	<b>≤ 30 days</b>	<b>&gt; 30 days ≤ 60 days</b>	<b>&gt;60 days ≤ 90 days</b>	<b>&gt; 90 days</b>
<b>November 30, 2017</b>	<b>\$ 22,944</b>	<b>\$ 7,266</b>	<b>\$ 13,210</b>	<b>\$ 295</b>	<b>\$ 445</b>	<b>\$ 1,728</b>
February 28, 2017	\$ 67,356	\$ 63,542	\$ 3,016	\$ 494	\$ -	\$ 304

### L. 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 year ended February 28, 2017.

### M. Conferences

#### 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, 2017

### **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](http://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.*