

**QUANTUM NUMBERS CORP.**

**Interim Management Discussion and Analysis**

**As at March 31, 2021**

# QUANTUM NUMBERS CORP.

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## 1. **SCOPE OF MANAGEMENT'S FINANCIAL ANALYSIS**

The following analysis should be read in conjunction with the annual financial statements, including accompanying notes, of Quantum Numbers Corp. ("the Company") for the year ended December 31, 2020. The unaudited condensed interim financial statements for the quarter ended March 31, 2021, including comparative figures, have been prepared in accordance with IFRS applicable to the preparation of interim financial statements, including IAS 34, *Interim Financial Reporting*. All amounts are in Canadian dollars unless otherwise indicated.

### 1.1 **FORWARD LOOKING STATEMENTS**

The sections of this management discussion and analysis ("MD&A") on the Company's strategy and action plan, its intellectual properties, development and financial reporting reflecting management's current expectations contain "forward-looking statements." Such statements should be understood in context, particularly statements that reflect the Company's opinions, estimates and expectations about future events or results. Such forward-looking statements are subject to certain factors and involve some risks and uncertainties. There can be no assurance that such statements will prove to be accurate. Factors that could cause future results, activities and events to differ materially from those expressed or implied by such forward-looking statements include, but not limited to, possibility or not to obtain the patent, time required to obtain such patent, risks inherent in the hi-tech industry, and the time it will take for the industry to be ready to move to quantic solutions. These risks and uncertainties are described in this MD&A and also the annual information form filed on SEDAR.

### 1.2 **INCORPORATION, NATURE OF OPERATIONS AND GOING CONCERN**

Quantum Numbers Corp. (the "Company" or "Quantum") was incorporated under the *Business Corporations Act* of Ontario on July 19, 2007.

The head office, principal address and records office of the Company are located at 2300 Alfred Nobel Blvd., Suite 209, Montreal, H4S 2A4. The Company is a developer of a new generation of cryptographic solutions pursuant to the acquisition of intellectual property.

The business of technology involves a high degree of risk and there can be no assurance that projects under research and development will proceed through to achieve commercialization. Risks related to the value of the Company's intangible assets, completing proof of concept studies, protecting intellectual property rights, the ability of the Company to raise alternative financing, and risks inherent to new technologies, such as risk of obsolescence, slow adoption and competing technological advances. Changes in future conditions could require material impairment of assets.

These condensed interim financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") on a going concern basis, which contemplates that the Company will be able to realize its assets and discharge its liabilities in the normal course of business. Since its incorporation, the Company has accumulated a deficit of \$6,843,816 (December 31, 2020 - \$6,405,692) and during the period ended March 31, 2021, incurred a net loss and comprehensive loss of \$438,124 (March 31, 2020 - \$157,848). Considering the recent non-brokered private placement of \$2,000,000, the Company believes that it has sufficient funds to meet its current obligations and continue as a going concern for the next twelve months. The proceeds from the private placement were used to pay all outstanding accounts payable and start the execution of its business plan with the hire of a new CEO.

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### **1.2 INCORPORATION, NATURE OF OPERATIONS AND GOING CONCERN (Continued)**

These condensed interim financial statements have been prepared on a going-concern basis which contemplates that the Company will continue in operation in the foreseeable future and will be able to realize its assets and discharge its liabilities in the normal course of business. This assumption is based on the current net assets of the Company and management's current operating plans.

These condensed interim financial statements do not reflect the adjustments to the carrying values of assets and liabilities, the reported amounts of expenses and the classification of statement of financial position items if the going concern assumption was deemed inappropriate. Management did not take these adjustments into account as it believes in the validity of the going concern assumption.

The Company's financial year ends on December 31.

In March 2020, the World Health Organization declared the COVID-19 epidemic a pandemic. The situation is continually evolving, and the measures put in place have numerous economic repercussions at the global, national, provincial and local levels. These measures, which include travel bans, solitary confinement or quarantine (voluntary or not), and social distancing, have caused significant disruption among businesses, globally and in Canada, due to the economic slowdown. Governments and central banks have responded by implementing monetary and fiscal measures to stabilize the world economy; however, the current challenging economic climate may cause adverse changes in cash flow, the level of working capital and the search for future financing, which could have a direct impact on the Company's future financial position. The Company has implemented measures to mitigate the impact of the pandemic on its future operations.

### **1.3 CHANGES IN SIGNIFICANT ACCOUNTING POLICES**

These condensed interim financial statements were prepared in accordance with standard IAS 34 - Interim Financial Reporting and do not include all of the information required for a full set of financial statements prepared in accordance with International Financial Reporting Standards ("IFRS"). They, however, include specific complimentary notes in order to provide information necessary to assess the financial situation of the Company at period end since its last annual financial statements dated December 31, 2020.

At the date of authorization of these condensed interim financial statements, management believes that there are no new standards, amendments and interpretations to existing standards that have been published by the IASB, but are not yet effective, which could materially impact the Company's financial statements.

### **1.4 SENIOR MANAGEMENT CHANGES**

On December 23, 2020, Mr. Francis Bellido was appointed as CEO of the Company and Mr. Marc Rousseau remained CFO.

On January 27, 2021 and on March 12, 2021, Dr. Edward Laurence Moore and Scott Rickards were respectively appointed directors of the Company.

### 1.5 COMPANY OVERVIEW AND STRATEGY

On August 3, 2016, the Company entered into an Intellectual Property Assignment Agreement with Société de Commercialisation des Produits de la recherche appliquée SOCPRA Sciences et Génie SEC ("SOCPRA") and its inventors by issuing a total of 6,000,000 common shares of the Company at a fair value of \$0.05 per share, representing a total fair value of \$300,000. The Company also reimbursed \$13,838 to SOCPRA for the professional fees associated with the protection of the patent ("Acquisition").

Until the expiry of the last patent rights, the Company will pay to SOCPRA a royalty of 5% calculated on the net sales price of products sold by the Company. The royalty shall be calculated on a 12-month basis starting on the effective date and shall be paid by the Company to SOCPRA within 90 days following the expiry of each reference year. The Company may have an option to buy back the royalties in the future at terms and conditions to be agreed upon by both parties. Pursuant to the IP Agreement, if the Company did not find or develop a commercial application within three years, 50% of the intellectual property would be transferred back to SOCPRA. As the Company found a commercial application within three years, 50% of the intellectual property shall not be transferred.

The Acquisition was not considered to be a business combination and was accounted for as an asset acquisition. Total purchase price of \$300,000, finder's fees of \$30,000 and transaction costs of \$116,112, which includes the reimbursement of \$13,838 above, totalling \$446,112, were capitalized to intellectual property.

### INTELLECTUAL ACTIVITIES

Since Quantum Numbers Corp. changed to quantum hi-tech Intellectual Property, the primary management objective was to strengthen the Company in the following three sectors of activities:

#### **Technology**

In order to stay focused on our primary objective, which is to make our technology accessible as rapidly as possible to potential clients and partners, and secured regarding its effectiveness and ensuring that the Intellectual Property is well protected, we are closely working with l'École de Technologie Supérieure ("ETS") in order to maximize the potential and security of our technology. The Company is putting in place a program to develop complementary metal-oxide semiconductor ("CMOS") implementations with ETS to ensure a greater competitiveness. During the first quarter of 2021, we were awarded a subsidy from the Quantum Province of Quebec program to develop three different CMOS implementations.

In regards to our second patent "Method and System for creating a Random Bit Sample", this technology is a method that quantifies the randomness of our signal, a perfect complement to our technology.

Towards the end of 2019, the Company decided that it would be beneficial to work on a CMOS version. The Company filed a grant form with a new Provincial Program. The grant was accepted. The grant covers between 40 and 60% of the eligible expenses up to \$250,000. The development project will start under the elm of Dr Ghyslain Gagnon in Q2 of 2021.

The Company's latest R&D breakthrough in August 2020 is the achievement of a successfully operational prototype that can reach 300 Mbps of random bits with only the digital components limiting the throughput. More recently, the Company also is exploring the development of a portable USB-type or PCI Express Card type QRNG, which in the management's opinion, may get the Company closer to commercialisation.

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## 1.5 COMPANY OVERVIEW AND STRATEGY (Continued)

### Patent

As the Company must obtain its Patent to pass the introduction level with potential clients, it was then decided to work with the Company's Patent Agent to assess the patentability of our technology. The Company received the final report that indicates that it should continue the National Phase as planned. By doing the legwork and research at the stage of the patentability report, the Company was able to respond rapidly to the European Patent Office ("EPO") investigator. Furthermore, that research also allowed us to develop a second Patent that the Company filed. Please refer below for the status.

### Status of patents

#### First Request Method for generating random numbers and associated random number generator

<u>Country</u>	<u>Status</u>
United States	Patent granted. A partial Patent was granted on August 7, 2018. The second portion was granted on October 8, 2019.
Russia	Patent granted on January 16, 2019.
European Patent Office	EPO granted the Patent on February 2, 2020, and the dispute period for all the countries will end on November 2, 2020.
Thailand	The deadline to request an examination report is November 15, 2022.
Australia,	Granted 2020-06
Canada, Brazil, India, Indonesia, Republic of Korea, Vietnam	For all these countries, we requested the examination and we are awaiting the examiner's response.
China	The latest examiner comments were addressed on February 10, 2020. We are awaiting the examiner's response.

#### Second Request Method and system for generating a random bit sample

<u>Country</u>	<u>Status</u>
European Patent Office	EPO granted the Patent on October 23, 2019, and the dispute period for all the countries will end on July 23, 2020.
United States	Patent granted.
All the countries where our first patent was registered, with the addition of Japan.	In early June, 2020, we registered in all the countries where our first patent was registered, with the addition of Japan. We are waiting for each examiner's responses.

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### 1.5 COMPANY OVERVIEW AND STRATEGY (Continued)

#### Market

From its inception, the Company focused its resources in developing its key IP position to align a successful venture in the emerging Quantum Random Number Generator (“QNRG”) market. The National Institute of Standards and Technology Post Quantum Cryptography Standards Committee is still working on related protocols and we believe to have the right attributes to fulfill the future requirements for target markets.

Attendance to conferences in the IT security industry is key to assess our position and initiate early adopter agreements with target markets. For the moment, we are monitoring the situation related to COVID-19 and are attending virtual conferences and participating on various panels.

Since March 2018, we have not seen any transactions of significant value in our market. In summary, we work closely with the ETS with respect to the technology and adaptation to the needs of potential markets.

The Company specifically intends to target the highly valued medical devices and Healthcare Services industries while ensuring its technology is also relevant and applicable to others, such as Datacenters, Blockchain technologies, Financial Services, Cloud-Based IT Security Infrastructure, Classified Government Networks and Communication Systems, Secure Device Keying (IOT, Automotive, Consumer Electronics) and Quantum Cryptography.

### 1.6 HIGHLIGHTS

On January 15, 2021, the Company completed a non-brokered private placement by issuing a total of 40,000,000 units at a price of \$0.05 per unit, for a total gross proceed of \$2,000,000.

As at March 31, 2021, the Company had a net working capital of \$1,395,710 compared to a net working capital deficiency of \$386,111 on December 31, 2020.

### 1.7 INTELLECTUAL PROPERTY

The carrying amount can be analyzed as follows:

	Balance as at December 31 2020	Additions	Balance as at March 31 2021
	\$	\$	\$
<b>Cost</b>			
Acquisition of SOCPRA license	446,112	-	446,112
Development costs	220,967	-	220,967
	667,079	-	667,079
<b>Accumulated amortization</b>			
Amortization	27,499	5,500	32,999
<b>Carrying amount</b>	639,580	5,500	634,080

In October of 2019, when available for use, the Company has commenced amortizing the license on a twenty-year basis. No amortization was taken on the development costs as these assets are not yet available for use.

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### 1.8 SELECTED FINANCIAL INFORMATION AND OPERATING RESULTS

	Three-month periods ended March 31	
	2021	2020
	\$	\$
<b>Expenses</b>		
Share-based payments	174,000	-
Consulting fees	78,891	1,400
Professional fees	63,332	9,819
Management fees	62,201	-
Office expenses	26,121	898
Filing and listing fees	12,798	9,168
Salaries	5,787	84,998
Amortization	5,500	5,546
Development costs	4,326	30,221
<b>Net loss and comprehensive loss for the period</b>	<b>(438,124)</b>	<b>(157,848)</b>
<b>Basic and diluted loss per share</b>	<b>(0.005)</b>	<b>(0.003)</b>
<b>Weighted average number of common shares outstanding</b>	<b>94,974,505</b>	<b>60,527,838</b>

### 1.9 BALANCE SHEET

	March 31, 2021	December 31, 2020
	\$	\$
Total assets	2,102,913	672,685
Total liabilities	125,704	450,902
Total equity	1,977,209	221,783

### 1.10 SUMMARY OF QUARTER RESULTS

The following table sets forth selected quarterly financial information for each of the eight most recently completed quarters.

<u>Three-month period ended</u>	<u>Net loss and comprehensive loss for the period</u>	<u>Basic and diluted loss per share</u>
	\$	\$
March 31, 2021	(438,124)	(0.005)
December 31, 2020	(389,272)	(0.006)
September 30, 2020	(132,789)	(0.002)
June 30, 2020	(119,342)	(0.002)
March 31, 2020	(157,848)	(0.003)
December 31, 2019	(161,265)	(0.003)
September 30, 2019	(140,307)	(0.002)
June 30, 2019	(176,690)	(0.003)

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### **1.11 FINANCIAL SITUATION**

#### **LIQUIDITY**

As of March 31, 2021, the Company had a working capital of \$1,395,710 compared to a working capital deficiency of \$386,111 on December 31, 2020. The increase results mainly from the completion of a private placement.

#### **CASH FLOWS**

The Company's operating activities used \$652,676 in the three-month period ended March 31, 2021 compared to \$135,004 for the same period in 2020. The increase in cash flows used results mainly from the increase in net changes in non-cash working capital items.

The Company's investing activities used \$nil in the three-month periods ended March 31, 2021 and 2020.

The Company's financing activities generated \$2,039,550 in the three-month period ended March 31, 2021 compared to \$nil for the same period in 2020. The increase in cash flows generated results mainly from the completion of a private placement.

#### **RESULTS OF OPERATION**

The main expenses for the three-month period ended March 31, 2021 were share-based payments of \$174,000, consulting fees for an amount of \$78,891, professional fees for an amount of \$63,332, management fees for an amount of \$62,201, office expenses for an amount of \$26,121 and filing and listing fees for an amount of \$12,798.

The main expenses for the three-month period ended March 31, 2020 were salaries for amount of \$84,998, development costs for an amount of \$30,221, professional fees for an amount of \$9,819, filing and listing fees for an amount of \$9,168, travel expenses for an amount of \$8,085 and amortization for an amount of \$5,546.

### **1.12 POST-REPORTING DATE EVENT**

There are no post-reporting date events.

### **1.13 SHARE CAPITAL**

On January 15, 2021, the Company completed a non-brokered private placement by issuing a total of 40,000,000 units at a price of \$0.05 per unit, for a total gross proceed of \$2,000,000. Each unit consisted of one common share and one warrant. Each warrant entitles its holder to acquire one common share of the Company at a price of \$0.15 for a period of 12 months following the closing of the private placement. Finder's fees of \$27,200 were paid in connection with the private placement.

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### 1.14 WARRANTS

The Company's warrants are as follows for the reporting periods:

	March 31, 2021		December 31, 2020	
	Number of warrants	Weighted average exercise price	Number of warrants	Weighted average exercise price
		\$		\$
Balance outstanding, beginning of year	-	-	-	-
Granted	<u>40,000,000</u>	0.15	-	-
Balance outstanding, end of year	<u>40,000,000</u>	0.15	-	-

These warrants are exercisable for a period of twelve months.

### 1.15 STOCK OPTIONS

The Company's share options are as follows for the reporting periods:

	March 31, 2021		December 31, 2020	
	Number of options	Weighted average exercise price	Number of options	Weighted average exercise price
		\$		\$
Balance outstanding, beginning of year	6,650,000	0.07	4,250,000	0.20
Granted	3,500,000	0.17	4,650,000	0.65
Expired	-	-	(2,250,000)	(0.28)
Exercised	<u>(1,400,000)</u>	0.05	-	-
Balance outstanding, end of year	<u>8,750,000</u>	0.11	<u>6,650,000</u>	0.07
Balance exercisable, end of year	<u>6,562,500</u>	0.10	<u>6,650,000</u>	0.07

The weighted average remaining contractual life for options outstanding at March 31, 2021 is 2.55 (2020 – 4.44) years.

The Company recognized an amount of \$174,000 (2020 - \$nil) for the period ended March 31, 2021.

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### 1.15 STOCK OPTIONS (Continued)

The weighted average fair value of the granted options was determined using the Black-Scholes option pricing model and based on the following weighted average assumptions:

	<u>2021</u>	<u>2020</u>
Average share price at date of grant	\$0.18	-
Dividends yield	-	-
Expected weighted volatility	127.40%	-
Risk-free interest rate	0.29%	-
Expected average life	3 years	-
Average exercise price at date of grant	\$0.17	-

Outstanding and exercisable options are as follows:

Expiry Date	Exercise Price	Number of shares		Remaining life (years)
		Outstanding	Exercisable	
	\$			
November 22, 2021	0.10	500,000	500,000	0.65
April 1, 2022	0.15	150,000	150,000	1.00
December 9, 2022	0.12	900,000	900,000	1.69
November 22, 2023	0.10	200,000	200,000	2.65
December 18, 2023	0.05	2,500,000	2,500,000	2.72
December 22, 2023	0.065	750,000	750,000	2.73
December 9, 2024	0.12	250,000	250,000	3.69
January 26, 2024	0.14	500,000	500,000	2.82
February 2, 2024	0.14	2,500,000	312,500	2.84
March 11, 2024	0.215	500,000	500,000	2.95
		8,750,000	6,562,500	

### 1.16 OUTSTANDING SHARE DATA

	<u>May 28, 2021</u>
Common shares	101,927,838
Stock options	8,750,000
Warrants	40,000,000
	<u>150,677,838</u>

### 1.17 **INTELLECTUAL PROPERTY**

*“Our technology involves detailed proprietary and engineering knowledge and specific customer adoption criteria. If the Company is not able to effectively protect its intellectual property or cater to specific customer adoption criteria, our business may suffer a material negative impact and could fail.”*

The success of our company will be dependent on our ability to successfully develop; qualify under current regulations and protect our technologies by way of patents and trademarks. The Company has its Patent Pending in Canada, United States, European Union and in 10 other countries. If we are unable to secure trademarks and patent protection for our intellectual property in the future, or that protection is inadequate for future products, our business may be materially adversely affected.

Further, there is no assurance that our technology does not or will not infringe upon patents, copyrights or other intellectual property rights held by third parties. The Company has mandated its Patent Agent to perform an exhaustive analysis of the Patent and Patent Pending deposited prior to ours, findings should be available very shortly, but all efforts are being made to obtain it sooner. However, we may become subject to legal proceedings and claims from time to time relating to the intellectual property of others in the ordinary course of our business. If we are found to have violated the intellectual property rights of others, we may be enjoined from using such intellectual property, and we may incur licensing fees or be forced to develop alternatives. In addition, we may incur substantial expenses and diversion of management time in defending against these third-party infringement claims, regardless of their merit. Successful infringement or licensing claims against us may result in substantial monetary liabilities, which may materially and adversely disrupt our business.

*“The Company may be unable to secure or maintain regulatory qualifications for its Technology.”*

The Company may be unable to secure or maintain regulatory qualifications for its products for some sector of our market. This would limit the ability of the Company to procure patent or other intellectual property protection for its technology and to license or enforce such patents if any.

### 1.18 **RISK AND UNCERTAINTIES**

Risk factors are discussed in detail in the Company’s Financial Statements and MD&A contained in the annual report for the year ended December 31, 2020.

### 1.19 **EVALUATION OF INTERNAL CONTROL OVER FINANCIAL REPORTING**

Management maintains a system of internal control over financial reporting to provide reasonable assurance that assets are safeguarded from any loss or unauthorized use and that financial information is reliable and available in a timely manner. They have also designed or had designed internal controls over financial reporting to provide reasonable assurance that financial reporting is reliable and that the financial statements are designed to report financial information in accordance with IFRS.

There were no important changes in the internal control over financial reporting during the three-month period ended March 31, 2020, that had or could reasonably be expected to materially affect the internal control over financial reporting (“ICFR”).

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### 1.20 RELATED PARTY TRANSACTIONS

The Company's related parties include companies under common control and joint key management, as described below.

Unless otherwise stated, none of the transactions incorporate special terms and conditions and no guarantees were given or received. Outstanding balances are usually settled in cash.

#### 1.20.1 **Transactions with key management**

The key management of the Company are the members of senior management and the Board. The remuneration for the period of key management include the following expenses:

	<u>2020</u>	<u>2019</u>
	\$	\$
Management fees	62,201	-
Salaries	-	78,000
Share-based payments	<u>174,000</u>	-
	<u>236,201</u>	<u>78,000</u>

An amount of \$16,667 (2020 - \$nil) is due to a company owned by senior management for unpaid management fees and is included in accounts payable and accrued liabilities.

An amount of \$921 (2020 - \$nil) is due to directors for reimbursement of expenses incurred during the period and is included in accounts payable and accrued liabilities.

### 1.21 ADDITIONAL INFORMATION AND CONTINUOUS DISCLOSURE

This MD&A is dated May 28, 2021 and complies with Canadian Securities Administrators' *Regulation 51-102 respecting continuous disclosure obligations, c. V-1.1, r. 24*. The purpose of this MD&A is to help the reader understand and assess the material changes and trends in the Company's results and financial position. It presents Management's perspective on the Company's current and past activities and financial results, as well as an outlook of activities planned for the coming months. The Company regularly discloses additional information through press releases and other reports filed on the Company ([www.quantumnumberscorp.com](http://www.quantumnumberscorp.com)), and SEDAR ([www.sedar.com](http://www.sedar.com)) websites.

(s) Francis Bellido, President and Chief Executive Officer

(s) Marc Rousseau, Chief Financial Officer

Montreal (Quebec), May 28, 2021