sona

·nanotech·

UNIQUE NANOPARTICLE TECHNOLOGY FOR RAPID DIAGNOSTICS AND 'IN VIVO' APPLICATIONS

WWW.SONANANO.COM

CSE:SONA | OTC:SNANF

April 2021

FORWARD-LOOKING STATEMENTS

This presentation contains forward-looking information under applicable securities law. All information that addresses activities or developments that we expect to occur in the future is forward-looking information. Forward-looking statements are based on the estimates and opinions of management on the date the statements are made.

Such forward-looking statements include, but are not limited to, statements regarding: the anticipated benefits of Sona's GNR technology; anticipated growth in the global point-of-care (PoC) diagnostics market; the intended pursuit of health regulatory approvals in Europe and North America; intended next steps in development of a saliva-based test; anticipated demand for saliva-based test from large employers; anticipated continuing need for COVID-19 rapid tests; potential near-term drivers of Sona's business; and longer-term applications of Sona's technology.

Actual results may differ materially from those set forth in this presentation due to risks and uncertainties affecting the Company and its products. These forward-looking statements involve known and unknown risks and uncertainties and those risks and uncertainties include, but are not limited to the Company's ability to develop a rapid, antigen-based COVID-19 test through the successful and timely completion of evaluation studies; anticipated benefits of Sona's technology may not be realized; required regulatory approvals may not be obtained in a timely manner or at all; market opportunities may not develop as expected, and demand for the Company's tests may be adversely affected by introduction or success of competing products, or availability of COVID-19 vaccines or treatments reducing demand for testing; and, if development of the Company's test is successful, the commercialization of its rapid, antigen-based COVID-19 test, the ability of the Company secure manufacturing and distribution for its rapid, antigen-based COVID-19 test quickly and at scale and other risks detailed from time to time in the Company's ongoing filings and in its most recent annual information form filed with the Canadian regulatory authorities on SEDAR at www.sedar.com.

Readers are cautioned not to place undue reliance on these forward-looking statements and are encouraged to read the Company's continuous disclosure documents which are available on SEDAR. Such statements should not be regarded as a representation that any of the plans, expectations or intentions will be achieved. Sona takes no responsibility to update forward-looking statements in this presentation except as required by law.

COMPANY HIGHLIGHTS

- **Patent pending GNR platform technology** without CTAB positions Sona to potentially disrupt the $26B[1] global point-of-care diagnostic market
- **Lead product** is a 20-minute, easy to use, antigen lateral flow saliva test that screens for COVID-19 currently in clinical trial and the Company has a nasopharyngeal test under CE Mark
- **Clinical trial commenced**, at a leading Toronto hospital with the objective to determine the clinical performance of the saliva test with up to 500 emergency room, symptomatic patients
- **Preparing to manufacture** and deliver tests subject to submission for, and potential receipt of, health regulatory approval, with anticipated strong demand
- **Future tests that may be developed**: a rapid concussion screening test
- **Long term development path** for use of GNR's for in-vivo applications which could have profound impact on drug delivery, photothermal therapy, and cell imaging

All figures in USD unless otherwise stated.

Note 1) https://www.reportsanddata.com/report-detail/point-of-care-poc-diagnostics-market#utm_source=globenewswire&utm_medium=referral&utm_campaign=ravi18SEP2019&utm_content=DP

SONA AT A GLANCE

Sona Nanotech is a nanotechnology life sciences company that has developed multiple proprietary methods for the manufacture of gold nanorods (GNR's)

Nanotechnology: the use of matter on an atomic, molecular, and supramolecular scale

Gold Nanorods: gold nanoparticles that are elongated and can provide for more sensitive detection in rapid diagnostic tests

Sona's proprietary gold nanorod (GNR) particles do not use toxic CTAB (cetyltrimethylammonium), eliminating the associated toxicity risks in biologically-based rapid tests and medical applications.

Sona develops and applies its GNR technologies in diagnostic testing platforms which may improve existing tests and enable entirely new proprietary rapid tests, with profound impact on the Global Rapid Diagnostic Medical Market.

Sona's gold nanotechnologies may also have the potential to be used in a diverse variety of industries aside from the medical diagnostics industry, including targeted drug delivery.

SONA'S GNR TECHNOLOGY IN LFA'S

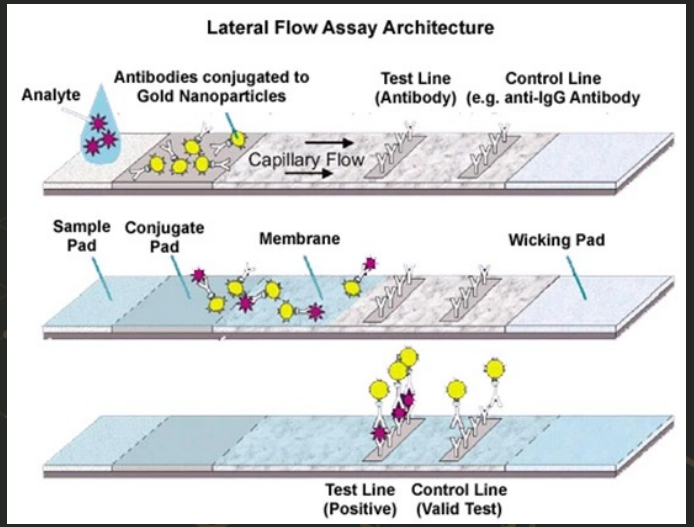
Lateral Flow Assays (LFA's) are simple, fast, and low-cost Point of Care (PoC) diagnostic or screening tools which can provide rapid results (i.e. at-home pregnancy tests).

Sona applies its proprietary GNR technology without CTAB in LFA's with a view to increasing sensitivity while eliminating the associated toxicity risks in rapid tests and medical applications.

The use of Sona's GNR technology is designed to provide **higher sensitivity and improved accuracy**, which could result in benefits for cost, healthcare resources, policy, and contact tracing.

Patents have been filed for Australia, Canada, China, Europe, India, Japan, and US based on the International (PCT) Patent Application

~2 billion LFA's are produced each year for a variety of different uses, representing an enormous opportunity to disrupt the Global Rapid Diagnostic market.



Source: https://www.cytodiagnostics.com/pages/lateral-flow-assay

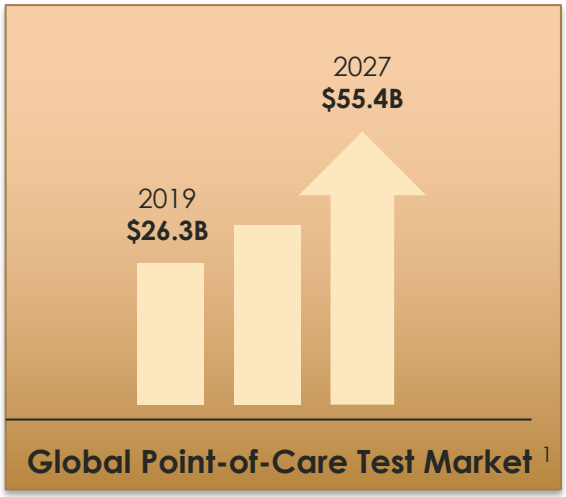
Source: https://www.reportsanddata.com/report-detail/point-of-care-poc-diagnostics-market#utm_source=globenewswire&utm_medium=referral&utm_campaign=ravi18SEP2019&utm_content=DP

THE GLOBAL RAPID DIAGNOSTIC MARKET

Rapid Diagnostic Tests (RDT's) are medical screening or diagnostic tests that are mobile, quick and easy to perform, and provide rapid results.

The global PoC diagnostics market is **expected to grow to USD $55.4 Billion with 9.6% CAGR** over the next six years.[1]

Growth is attributed to technology advancements enabling a shift from laboratory equipment to rapid PoC testing, while the economic benefits of quick results and real-time data analytics act to limit the spread of infectious diseases.



LFA's are the most widely used and recognized rapid diagnostic test. The Coronavirus pandemic has resulted in a significant increase in global lateral flow assay test manufacturing, with multiple large players announcing capacity increases.

Sona applies its GNR technology with the aim to increase the sensitivity of existing LFA's and commercialize proprietary tests for new global market opportunities (i.e. Sona's Rapid COVID-19 antigen tests and rapid concussion prototype test).

All figures in USD unless otherwise stated.
Note 1) https://www.reportsanddata.com/report-detail/point-of-care-poc-diagnostics-market#utm_source=globenewswire&utm_medium=referral&utm_campaign=ravi18SEP2019&utm_content=DP

WHY COVID-19 RAPID TESTING STILL MATTERS

- **Not all will get vaccinated** - some can't or won't vaccinate
- **No vaccine is guaranteed 100%** - especially with mutations
- **Need to identify outbreaks** – early detection key to minimizing spread
- **Vaccine may not stop transmission** – virus can still be spread by touch

- **CDC: What We're Still Learning[1]:**
  - *How effective the vaccines are against variants.*
  - *How well the vaccines protect people with weakened immune systems.*
  - *How well COVID-19 vaccines keep people from spreading the disease.*
  - *Early data show that the vaccines may help keep people from spreading COVID-19, but we are learning more as more people get vaccinated.*
  - *How long vaccines can protect people.*

CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

"Rapid COVID-19 Testing is Here to Stay"[2]

Sources: https://www.vox.com/recode/22340744/covid-19-coronavirus-testing-vaccines-rapid-home-antigen
Note: 1) https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html
2) https://bondhealth.co.uk/blog/five-reasons-why-covid-19-testing-is-here-to-stay

SONA'S *SALIVA* TEST: *MORE COMFORTABLE AND SAFER TO ADMINISTER*

Rest it in the mouth and leave until vial turns blue

A SALIVA-BASED TEST: VERSION 2.0 OF SONA'S RAPID COVID-19 ANTIGEN TEST

Sona has developed a prototype for a second generation of its rapid COVID-19 antigen test that uses saliva instead of nasal pharyngeal samples

Benefits:

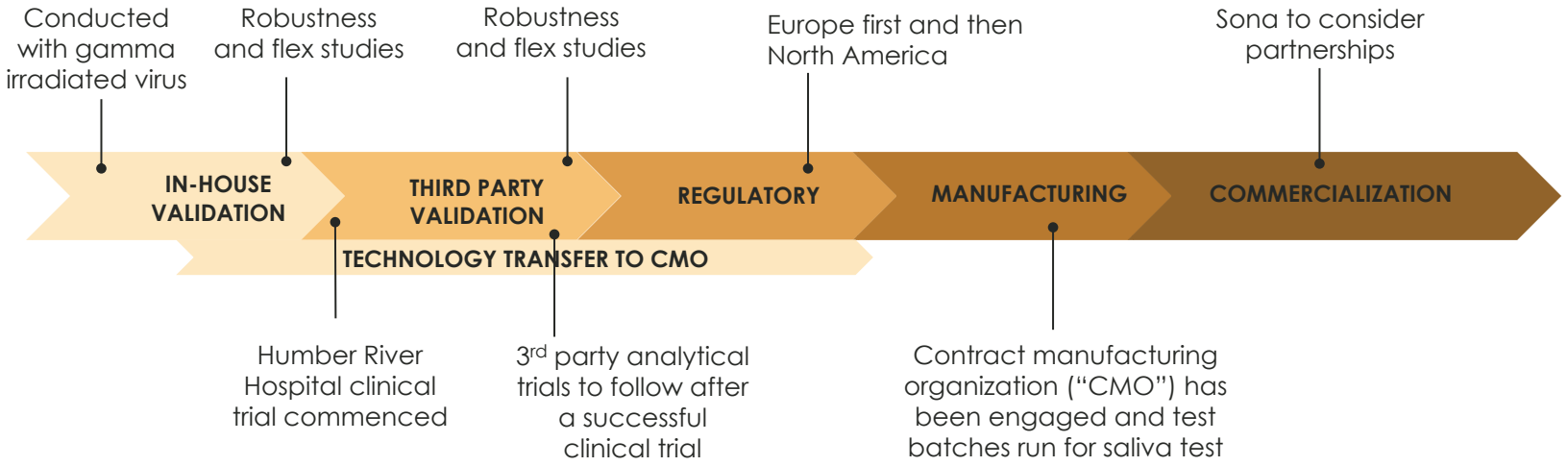
- Less invasive sample collection means safer and simpler sample collection and greater comfort
- Leverages existing Sona lateral flow cassette with specific buffer and collection device
- Lower risk of test administrators contracting COVID-19 from positive subjects
- Self-sampling reduces burden on healthcare professionals
- Less risk of sampling process conducted incorrectly

Key Steps:

- Conducted in-house analytical evaluations with gamma-irradiated virus samples
- Clinical testing trial commences in a proxy environment for the intended use scenarios
- Commission third party lab analytical evaluations with live virus samples for flex studies for robustness
- Regulatory submissions in Europe and North America

No Saliva-based, Rapid Antigen Test Has Been FDA-approved

SONA'S SALIVA TEST VALIDATION PATH



After a successful completion of the study, regulatory approvals to be sought first in Europe, then North America

SONA BEYOND COVID-19

Three Streams of Focus

#1. Near-term POC LFA Applications

- Scoping ***applications***
- Develop new POC tests
  - Concussion
  - Others

#2. Consumer Health LFA Offerings

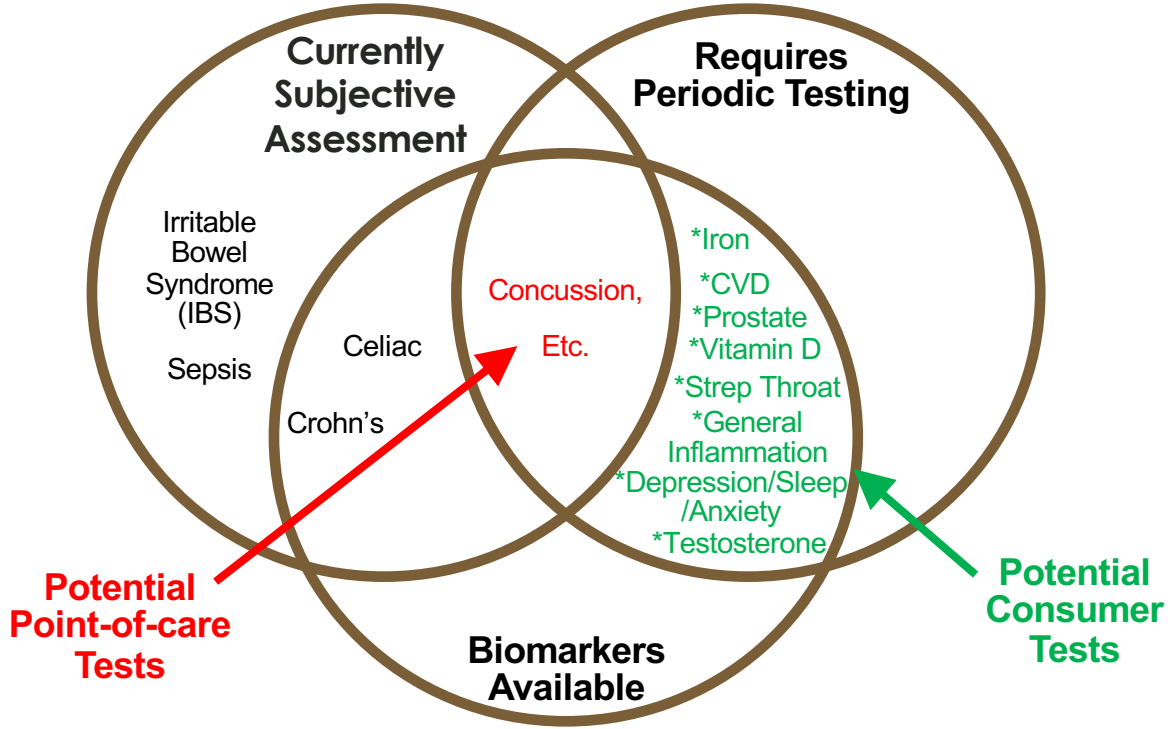
- Scoping ***products***
- Explore models for consumer tests
  - Develop and market Sona tests
  - License and market 3rd party tests
  - Develop app to track test data

#3. Higher-value GNR Applications

- Enhancing GNR capabilities
- Explore 'in vivo' GNR applications
  - Create Sona GNR awareness
  - Get referenced in published studies
  - Cancer tumor ablation
  - Liposuction

Develop new LFA tests while exploring consumer offerings and expanding our technical platform

FUTURE RAPID TEST DEVELOPMENT SCREEN



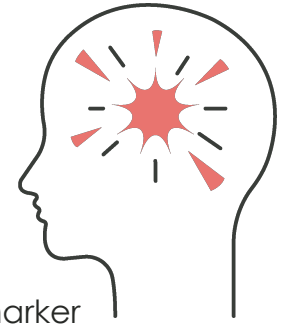
Selected Considerations:

- Commercial
  - Market size
  - Competitors
- Regulatory hurdles
- Economics
  - Biological materials
  - Labour requirements
  - Timeframes
- Future opportunities:
  - Tests for which biomarkers do not yet exist or are unproven

Sona Will Focus on Two Areas for Future Rapid Tests

SECOND COMMERCIALIZATION:

CONCUSSION SCREENING TEST



Sona is applying its GNR technology to develop a rapid concussion screening test.

The test is intended to detect the presence of GFAP (Glial Fibrillary Acidic Protein), a biological marker associated with concussions, typically released into the blood stream **within minutes of an impact to the head.**

> ***"Our goal is to develop a test that will provide immediate screening at the scene of a possible concussion, that is both quicker and more definitive than the current subjective cognitive tests relied upon to assess for a concussion"***
>
> - Darren Rowles, CSO of Sona Nanotech

An estimated **10 million concussions occur each year**[1], with 2.9 million/year in the US alone, including 837,000 incidents involving children[2]. Sona's concussion research is ready to enter the prototype development stage, however, industry standard timelines for a test to reach commercialization is estimated at 12-24 months, subject to regulatory approvals.

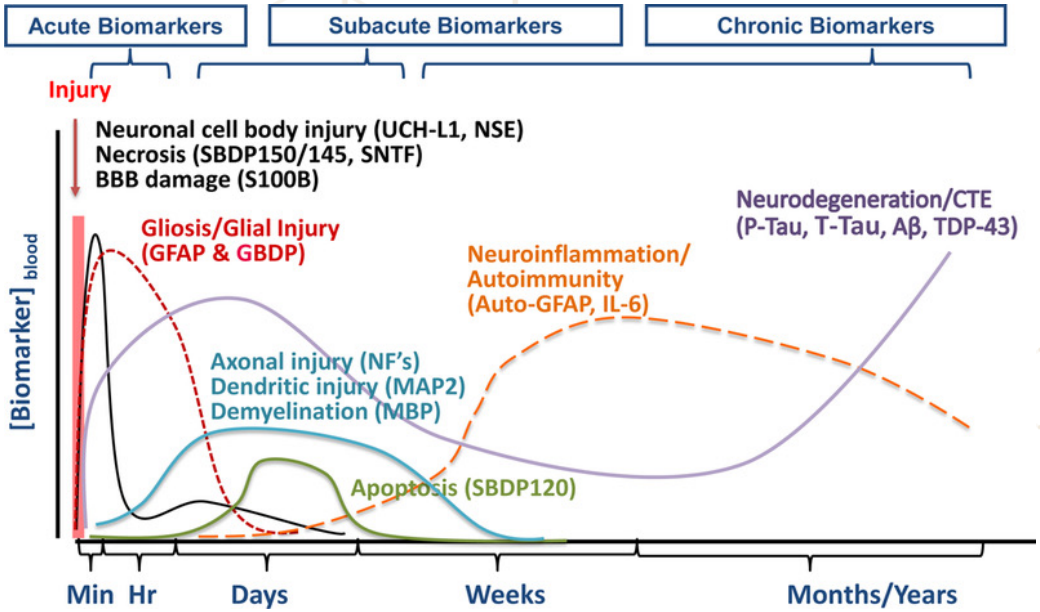
Sona has engaged Bonham/Wills, a leading sports consulting firm, to assist in securing test development sponsorship partners.

No Readerless, Rapid Concussion Test is Currently Commercially Available

Notes: 1) Hyder A.A. et al. The impact of traumatic brain injuries: A global perspective. NeuroRehabilitation. 2007;22(5):341–353
2) Centers for Disease Control and Prevention (2019). Surveillance Report of Traumatic Brain Injury-related Emergency Department Visits, Hospitalizations, and Deaths—United States, 2014. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.

CONCUSSION RAPID TEST BACKGROUND

Concussion Biomarkers



- Prototype is designed to detect Glial Fibrillary Acidic Protein (GFAP) which is the **initial marker** produced indicating damage to the brain.
- GFAP levels spike within minutes of a concussion and remain at significant levels for several hours.
- Study conducted by Abbott and published in Lancet neurology shows that GFAP alone is a good marker for mTBI[1]

Biomarkers Signal a Potential Concussion

Notes: 1) https://abbott.mediaroom.com/2019-08-26-New-Study-Finds-Abbotts-Blood-Test-Technology-Could-Help-Detect-Brain-Injury-Quickly-Even-if-CT-Scan-is-Normal

LONGER TERM APPLICATIONS

Because they are CTAB-free and therefore bio-friendly, Sona's gold nanorods may be ideal for 'in-vivo' applications in which they are used for tracking and targeting with the long-term potential for profound health benefit implications.

IN-VITRO

Diagnostics / Detection


Medical


Veterinary


Consumer health


Military
(pathogens and explosives)


Food industry
(bacteria and fungal)

IN-VIVO

Drug Delivery

Use as a carrier device to deliver payload(s) of drug molecules to cells, tissue, or organs, where and when desired.

Photothermal Therapy

Nanorods can be conjugated with tumor-targeting motifs and injected. When the tumor is irradiated with a near infrared light the gold nanorods get heated, which may allow the destruction of only cancerous tissue.

Cell Imaging

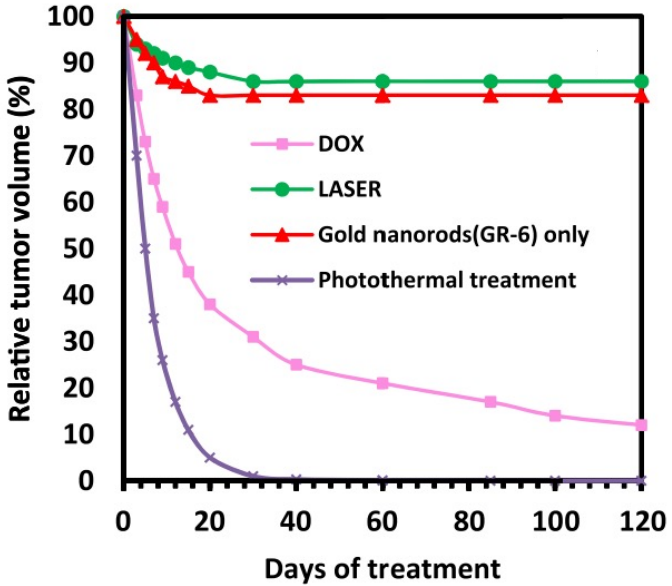
Produces high image quality.

Yields both qualitative and quantitative data.

More intuitive for health care practitioners to interpret.

GOLD NANOROD PHOTOTHERMAL ABLATION

Tumor Ablation Example[1]



- A 3rd party study using GNR's ***eliminated*** tumors in mice in 4 weeks[1]
  - GNR's injected in tumors and heated with near-IR laser
- **Key issue:**
  - While using gold 'in vivo' is understood to be safe, the long-term effects of GNRs treated with toxic CTAB that are left circulating 'in vivo' applications are unknown.
- **Sona advantage?**
  - In-house testing to date has shown Sona's proprietary CTAB-free GNRs have no toxicity, though significant further testing would be required to validate and confirm their safe use in humans.

A new journal study showed GNRs *eliminated* tumors in mice[1]

Source: *Facile approach for developing gold nanorods with various aspect ratios for an efficient photothermal treatment of cancer*, L.A.M. Al-Sagheer, et al in Volume 618, 5 June 2021 Colloids and Surfaces A: Physicochemical and Engineering Aspects

Note: 1) The gold nanorods used in this third-party study were neither manufactured by Sona nor was Sona's proprietary CTAB-free, biofriendly technology used with them.

STOCK INFORMATION

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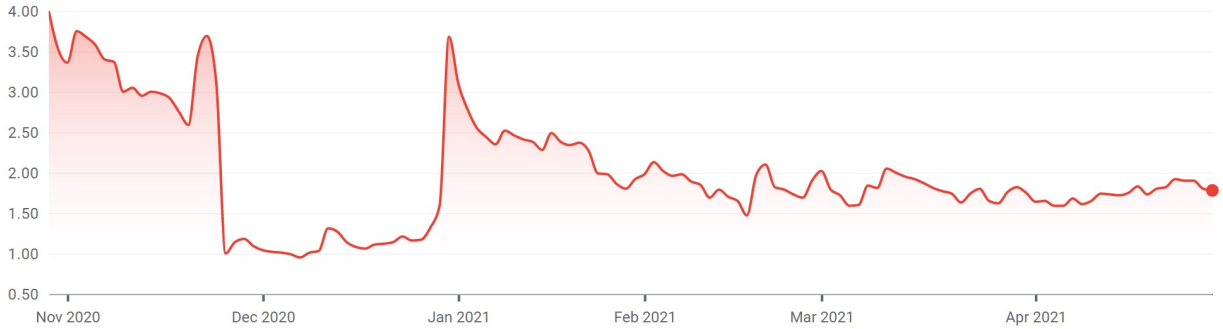

MARKET CAPITALIZATION

Shares Outstanding - basic:	64M
Diluted for 'in-the-money' options and warrants:	67M
Insider Ownership:	13.2%
Market Capitalization:	CAD $115M
Six Month High and Low:	$5.38/$0.78
Previous Quarter Average Daily Volume:	608,020

As of April 28, 2021

U.S. INSTITUTIONAL RESEARCH COVERAGE

Maxim Group | Jason McCarthy, Ph.D.

Note: (1) *Shares outstanding diluted for 'in-the-money' but not necessarily vested, options and warrants*

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