Biocompatible Nanoparticle Technology
Unlocking Cancer Therapies & Rapid Diagnostics
Forward Looking Statement

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 benefits to accrue to Sona from the Proposed Transaction, the future development of Siva’s Targeted Hyperthermia Therapy and the anticipated timing and terms of Sona’s planned equity raises.

Forward-looking statements are necessarily based upon a number of assumptions or estimates that, while considered reasonable, are subject to known and unknown risks, uncertainties, and other factors which may cause the actual results and future events to differ materially from those expressed or implied by such forward-looking statements, including the risk that Sona and Siva may not be able to successfully complete the Proposed Transaction, secure animal and human clinical studies, or develop the envisioned device or therapy, and the risk that equity financing may not be available on the anticipated terms or at all.

Actual results may differ materially from those set forth in this presentation due to risks and uncertainties affecting Sona and its products, including the demand for Sona’s tests which may be adversely affected by introduction or success of competing products, the ability for Sona to successfully develop longer-term applications for its technology and other risks detailed from time to time in Sona’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 Sona’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.
Deal Rationale

- Sona gold nanorods key to THT success
- Approval for THT could provide validation for Sona gold nanorods in other therapies
- First targeted application will be for rectal cancer
- The relevant market size for rectal cancer treatment is 28,000 new cases per year in US alone:

<table>
<thead>
<tr>
<th>Diagnosis Stage</th>
<th>Relevant Cases</th>
<th>Number of US cases treatable by THT per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td>100%</td>
<td>10,516</td>
</tr>
<tr>
<td>Stage 2</td>
<td>100%</td>
<td>11,968</td>
</tr>
<tr>
<td>Stage 3</td>
<td>50%</td>
<td>5,786</td>
</tr>
<tr>
<td>Total Relevant Cases</td>
<td>77.4%</td>
<td>28,270</td>
</tr>
<tr>
<td>Stage 4 (not relevant)</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Total, all stages</td>
<td>100%</td>
<td>28,270</td>
</tr>
</tbody>
</table>

Total number of new cases of rectal cancer annually in US = 44,000

Salient Deal Terms:
Sona to acquire 100% of Siva for up to US$8.65 million
- 100% share consideration
- US$2m payment upfront conditional on minimum equity raise
- Closing conditional on raising US $1m in equity, etc.
- Success and time-based earn-out payments (with minimum share price 'floors') based on:
  1. Securing of a colorectal cancer tumor model
  2. Delivery of functional infrared light device, SivaLum™ 2.0
  3. Positive results from a large animal study
  4. Positive results from a “first in human” study and patent

Siva Assets And IP To Be Acquired
- Validation of therapy with melanoma with small animal study
- Safety study data
- Two supporting patents held
- Significant know-how, reputation, contacts and studies
- Nanotechnology Characterization Laboratory assessment study
- SivaLum™ 1.0 infrared lightsourc (with version 2.0 in design)
- Expertise of Len Pagliaro with 24 years' experience in biotechnology

*The proposed acquisition is subject to certain conditions including the raising of US $1m in equity
Sona Nanotech at a Glance*

- Unique biocompatible proprietary gold nanorod manufacturing technology
- Developer of novel lateral flow rapid tests
- Key role in the advancement of photothermal medical therapies
- Proposed transformative acquisition* provides a mutual unlocking of value

Poised to benefit from multiple catalysts

**Proposed Transformative Acquisition** of Siva Therapeutics

- Pioneer in targeted hyperthermia (THT)

**Therapies**

- Three key Siva development milestones targeted for 2023

**Diagnostics**

- Two novel, rapid point of care tests heading towards clinical trials

David Regan, MBA
CEO, Sona Nanotech

- Strategy consultant and corporate director
- 15 years capital markets experience

Len Pagliaro, PhD
President, Siva Therapeutics

- Prof. of Bioengineering & Laboratory Medicine
- 24 years’ experience in biotech products & licensing

*Assumes the proposed acquisition of Siva Therapeutics
Sona’s Platform Technology: Uniquely biocompatible gold nanorods (GNRs)

What are gold nanorods
- Rod-shaped nanoparticles made of gold
- Nanometer is one-billionth of a meter
- Sizes of 10 to 100 nanometers in length
- Produced by chemical synthesis
- Can be conjugated to different molecules

Uses of gold nanorods
Therapies
- Photothermal therapy
- Tumor targeting activity
- Anti-bacterial activity
- Drug delivery vehicle

Diagnostics
- Diagnostic markers for imaging
- Immunoassay and biosensing

Limitations of other nanoparticles
- **Toxicity:**
  - Other gold nanorod production uses CTAB (cetyltrimethylammonium bromide)
  - CTAB is a known toxin that can:
    - kill cells
    - is therefore less suitable for in-vivo therapies

Sona’s GNR technology solution
- **Uniquely Biocompatible:**
  - Sona surfactant uses no CTAB
    - Can produce heat in the same way as CTAB-based GNRs.
    - Potentially more suitable for use in the body
- **Shape:**
  - Nanospheres, nanostars or nanoshells have:
    - Limited surface area
    - Limited stability
    - Limited penetration depth into cells
  - Limited ability to tune for resonance
- **Shaped as rods:**
  - Nanorods by Sona have:
    - Variety of lengths and widths to increase surface area
    - Long shelf life and stable surface properties
- **Complex light polarization and novel optical properties for use in diagnostic imaging**
  - High color intensity can lead to enhanced sensitivity in lateral flow tests

Sona GNRs could unlock the power of in-vivo applications

sonanano.com
CSE: SONA | OTCQB: SNANF
Two Areas of Strategic Focus*

<table>
<thead>
<tr>
<th>01 THERAPIES</th>
<th>02 DIAGNOSTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT</strong></td>
<td></td>
</tr>
<tr>
<td>THT Photothermal Cancer Therapy*</td>
<td>Rapid Diagnostic Tests (RDTs)</td>
</tr>
<tr>
<td>Targeting therapeutic heat to tumors by injecting gold nanorods</td>
<td>• TBI (Concussion)</td>
</tr>
<tr>
<td></td>
<td>• Bovine TB</td>
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<tr>
<td></td>
<td>3rd Party Test Development Services</td>
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<tr>
<td><strong>FUTURE POSSIBILITIES</strong></td>
<td></td>
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<tr>
<td>Targeted Drug Delivery</td>
<td>Further Proprietary Testing Solutions</td>
</tr>
<tr>
<td>Photothermal Cosmetic Therapy</td>
<td>Cell Imaging</td>
</tr>
</tbody>
</table>

*Subject to the proposed acquisition of Siva Therapeutics
GNR-Based Therapies

Sona Gold Nanorod ("GNR") Technology

Uniquely biocompatible

Unlocking of in-vivo medical applications potential
Sona’s GNR technology in Siva Therapeutics’ Targeted Hyperthermia Therapy™ (THT)

Current Cancer Treatments are risky, expensive and can do harm

- Chemotherapy and radiotherapy are non-selective in their destruction of cells
- Advanced therapies are expensive
- Surgery is risky

How does THT work?

- Targets heat directly to the tumor
- Uses IV injection of GNRs to heat the tumor from the inside
- Achieves hyperthermia instead of ablation destroying cancerous cells selectively
- Sona GNRs are inert and do not use toxic CTAB

Sona GNRs in targeted hyperthermia may create the opportunity to treat cancer without doing significant harm to healthy cells
Targeted Hyperthermia Therapy™ (THT)

Medical device with two components:
- Gold nanorods for injection
- Infrared light source

Heating tumors does the following:
- Stimulates immune system
- Kills cancer cells
- Increases tumor perfusion
- Shrinks tumors

01 Injection of billions of SivaRods™ into the bloodstream

02 SivaRods™ concentrate in solid tumors, 7-fold vs in non-tumor tissue

03 Tumor is treated for 10 min with SivaLum™ infrared light set to same wavelength as the nanorods

04 IR Light energy causes the SivaRods™ to vibrate, creating sufficient heat to kill cancer cells selectively

Healthy cells withstand heat stress, up to 52°C, typical with ablation therapies
Not damaged by hyperthermia’s 44°C

SivaRods™ heat to 44°C
- Selectively kills cancer cells
- Works from the inside of the tumor out
- Heat shock protein (HSP) synthesis used

Cancer cells are more sensitive to heat

Destroying cancer cells while healthy cells can go undamaged
**THT** photothermal cancer therapy using GNRs will address current treatment issues

Siva’s THT “inside-out” heating maximizes efficacy and minimizes collateral damage

**Current Approaches**
- Magnetic Fields
- Laser
- Ultrasound
- RF Waves

**Siva THT Solution**
- Treatment with SivaRods™ heat from inside, moving out
- SivaLum 2.0™ To be applied directly to cancerous tumor

**Studies**
- Siva has had major success in reducing tumors in small animal studies.
- Eliminated tumors in mice in 4 weeks
- Validated by Nanotechnology Characterization Laboratory study and report.

**Key Issue**
Using gold ‘in vivo’ is understood to be safe

Long-term effects of GNRs treated with toxic CTAB are unknown.

**Sona GNR Advantage**
Sona’s proprietary CTAB-free GNRs have shown no toxicity

Confirmed by third party and in-house testing

- Sona nano.com
- CSE: SONA | OTCQB: SNANF
First THT Application: Colorectal Cancer Tumors

Why is THT uniquely suited for colorectal cancer treatment?

- Alternatives diminish quality of life
- Significant market
- Outpatient procedure within current workflow
- Effective for solid tumors
- Early detection is possible
  - THT can be integrated with “watch and wait” approach
- Low metastatic index

Treatment Benefits

- Minimally invasive
- Targeted treatment
- Enhances success of other cancer therapies
- Easy to use
- Affordable

*SivaLum™ 2.0 coupled to a sigmoidoscope, emitting infrared light

* Representative
Lateral Flow Assays (LFA’s) as diagnostic tools are:
• Simple
• Fast
• Low-cost
• Rely on nanoparticles

Can provide rapid results (e.g. at-home pregnancy tests) at point-of-care

How could Sona’s GNRs make a difference?
• Multiple test lines per unit
• Easy-to-read results from one small sample
• Potentially greater sensitivity could detect trace amounts of biomarkers
# Sona’s Concussion Screening Test Prototype

## Current Problems

<table>
<thead>
<tr>
<th>Biomarkers</th>
<th>Other concussion markers only elevate within hours or days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessments</td>
<td>Current tests rely on subjective cognitive assessment</td>
</tr>
<tr>
<td>Time to result</td>
<td>Currently no readerless, rapid concussion test commercially available</td>
</tr>
</tbody>
</table>

## Sona’s Concussion Screening Solution

- GFAP (Glial Fibrillary Acidic Protein) released into the bloodstream within minutes of a concussion
- GFAP to be multiplexed with other concussion biomarkers to create unique mTBI fingerprint
- Relies on definitive biomarker identified associated with concussions
- Rapid lateral flow test at the scene

Validated in-lab with contrived concussion blood samples

## Next Steps

- Validate with clinical samples
- Clinical trials

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“We estimate that between 1.1 and 1.9 million sports and recreation related concussions occur annually in US children aged ≤18 years.”

American Academy of Pediatrics

8 Validated in-lab with contrived concussion blood samples

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Sona’s concussion screening test to be used at the scene of injury
"With help from the NRC IRAP program and the collaboration with our partners in the UK, we hope to offer farmers a more effective method for early detection of bovine TB than is currently used to mitigate the spread of this debilitating disease."

David Regan
CEO of Sona Nanotech

Current Methods & Issues

- No cost-effective early detection methods currently available
  - A diagnosis through a skin test, turnaround of 48-72 hours
  - Post-mortem examination and tissue culture, can take up to 12 weeks
- Once bTB is confirmed, all exposed animals in a herd are destroyed
- Estimated costs of bovine TB control in UK to top £1 billion over the next decade
- Skin test cannot distinguish between infected and vaccinated cattle

Sona’s Bovine Tuberculosis Solution

- Early detection at low cost without the need for test-and-slaughter
  - Blood sample taken for rapid lateral flow test
  - Associated app for tracking and reporting in minutes
  - Rapid screening of individual animals, no need to destroy healthy cattle
  - Discern TB positive from TB inoculated cattle

Next Steps
- Validate with clinical samples
- Clinical trials

Validated in-lab with contrived blood samples

CSE: SONA | OTCQB: SNANF
Sona’s next steps: Road to THT Commercialization

- Potential future clinical studies to provide multiple valuation catalysts
- Near-term catalyst in large animal studies (Preclinical)
- Success would initiate human pilot (Phase I)
- De Novo pathway for medical device expected

Study of biopharma company acquisition valuation lifts by lead product development phase14

Mean acquisition valuation increase:
- Pre-clinical to Phase I: 302%
- Phase I to Phase II: 93%
- Phase II to Phase III: 158%
- Phase III to approval: 40%

Study data cited is not for medical devices or therapies and may not relate directly to other companies or non-biopharma products or therapies.
The opportunity in Siva's THT is lucrative due to the clinical catalysts:

- The biggest increase in valuation occurs from pre-clinical to Phase I.
- Valuations have been identified to be higher for US and oncology companies.

Additional potential therapies:
- Drug Delivery
- Photothermal Cosmetic
- Further in-vivo therapies:
  - Esophageal cancer
  - Bladder cancer
  - Prostate cancer
  - Pancreatic cancer
  - Uterine cancer

Sona Therapeutics & Diagnostics Portfolio

<table>
<thead>
<tr>
<th>Therapy/Diagnostic</th>
<th>Patent filed</th>
<th>Pre-clinical</th>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Total Addressable Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted Hyperthermia Therapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>135,000 # of colorectal cases per year in US</td>
</tr>
<tr>
<td>Concussion test</td>
<td>Licensing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 million # of incidents per year</td>
</tr>
<tr>
<td>Bovine TB test</td>
<td>Licensing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17.7 million # of bovine TB testing events in UK</td>
</tr>
</tbody>
</table>

Diagnostics

- Licensing for:
  - Concussion test
  - Bovine TB test

Additional potential diagnostics:
- Lateral Flow Tests
  - Alzheimer's
  - Strep throat
  - Prostate
  - Depression/Anxiety
- Diagnostic Uses
  - Cell Imaging

A recent study has shown biopharma company valuations increased by 15.2% for each additional product under development.

Study data cited is not for medical devices or therapies and may not relate directly to other companies or non-biopharma products or therapies.
Management Team

David Regan, PhD
CEO
- Business and commercial operations oversight
- Strategy consultant and corporate director
- 15 years public company experience in strategy, IR and corporate development
- MBA from INSEAD and BBA (Hons) from St. FXU

Len Pagliaro, PhD
President, Siva Therapeutics, to be CSO, Sona Nanotech*
- Prof. of Bioengineering & Laboratory Medicine at University of Washington
- 24yrs exp with biotechnology products, services, & technology licensing
- Developed commercialization at BioImage from concept to a $26M P&L in 4 yrs, leading to acquisition & integration by ThermoFisher Scientific
- As CEO of Dynamic Light, Inc. led the spinout of an academic team from concept to first revenues in under 3 years

Darren Rowles
Head of Diagnostics
- 17 years’ experience with nanoparticle diagnostics
- Grew nanoparticle sales from $200K to $5.5M with ~$4M profit
- Advisory board member to Gold Conference and multiple university collaboration projects
- MBA from Bath University and BSc in Biomedical Science and Toxicology from UWIC

Kulbir Singh PhD
Co-Founder & Head of GNR R&D
- Responsible for GNR development
- Named author on 35 research papers and 2 patents
- PhD in chemistry from Guru Nanak Dev University
- Co-founder of a science-based, consumer product company

Robert Randall, CPA
Chief Financial Officer
- Extensive public company experience as CFO Torrent Capital, Antler Gold and eXeBlock Technology
- B.Comm. from St. Mary’s University with CA designation in 1987 with Coopers and Lybrand Chartered Accountants

*Assumes the proposed acquisition of Siva Therapeutics
Board of Directors

James Megann
Chair
- 25 years of experience in venture capital, capital markets and marketing
- Managing Director of Numus Financial which has completed over $1.5B in transactions
- He also serves on the board of Torrent Capital (TSX-V: TORR).

Walter Strapps
Director
- CEO and co-founder, Carver Biosciences Inc., a Khosla Ventures CRISPR/Cas13 antivirals development company
- Previously Chief Scientific Officer of Gemini Therapeutics, head of Discovery at Intellia Therapeutics, and working with RNA therapeutics
- M.A., M.Phil., Ph.D

Neil Fraser
Director
- Past-president of Medtronic Canada
- Life Sciences Strategy Council Member, Canadian Chamber of Commerce
- Previously Chief Scientific Officer of Gemini Therapeutics, head of Discovery at Intellia Therapeutics, and working with RNA therapeutics
- M.A., M.Phil., Ph.D

Mark Lievonen
Director
- Past-president of Sanofi Pasteur Limited
- Co-Chair of the Government of Canada’s COVID-19 Vaccine Task Force
- Director of OncoQuest Pharmaceuticals, Biome Grow, and the Gairdner Foundation
- MBA, FCPA

Dr. Michael Gross
Director
- Professor of Orthopedic surgery
- Medical director of the Regional Tissue Bank
- Current director of Fortune Bay, Chair Boomersplus
- MBBS FRCSC, ICD.D

Advisory Board

Dr. Catherine J. Murphy
- Peter C. and Gretchen Miller Markunas Professor of Chemistry at the University of Illinois at Urbana-Champaign (UIUC)

Dr. Xu Zhang
- Industrial research chair in applied nanotechnology at Cape Breton University, NS
- Chemist with extensive experience in immunoassay and cancer research.

Dr. Gerry Marangoni
- Co-Founder of Sona
- Tenured professor of chemistry at St. Francis Xavier University in Antigonish, NS

Fiona Marshall
- Extensive experience in the lateral flow industry.
- Responsible for establishing a US based R&D and production facility for various lateral flow tests, including tests for class 3 deadly pathogens that served US military contracts
Thank you

David Regan
CEO
Sona Nanotech Inc.
Appendix A
Sources in document


4. Popp, Mary; Oubou, Imane; Shepherd, Colin; Nager, Zachary; Anderson, Courtney; Patil, Len: 2014/08/21; Photothermal Therapy Using Gold Nanorods and Near-Infrared Light in a Murine Melanoma Model Increases Survival and Decreases Tumor Volume; VL - 2014; DO 10.1155/2014/450670; Journal of Nanomaterials

5. Gold Nanorods for Localized Treatment of Solid Tumors, NCL201902A, prepared by Nanocharacterization Laboratory. Available on request.


9. Association between plasma GFAP concentrations and MRI abnormalities in patients with CT-negative traumatic brain injury in the TRACK-TBI cohort: a prospective multicentre study

10. Agriculture and Horticulture Development Board 2020

11. Ontario Ministry of Agriculture, Food and Rural Affairs

12. National Farmers’ Union (NFU) of England and Wales

13. Bovine TB summary for England over the 12 months up to September 2022


# Appendix B
## Additional Reading

### Gold Nanorods
Gold nanorods as contrast agents for biological imaging: optical properties, surface conjugation and photothermal effects
Fabrication of Gold Nanorods with Tunable Longitudinal Surface Plasmon Resonance Peaks by Reductive Dopamine
Gold Nanorods: The Most Versatile Plasmonic Nanoparticles | Chemical Reviews
Functionalized gold nanorods for nanomedicine: Past, present and future
Nanomaterials: An Overview of Nanorods Synthesis and Optimization
Spheres vs. rods: The shape of gold nanoparticles influences aggregation and deposition behavior

### Targeted Therapies
Functionalized Gold Nanorods for Tumor Imaging and Targeted Therapy – PMC
Nanomaterials | Free Full-Text | Potential of Polymeric Films Loaded with Gold Nanorods for Local Hyperthermia Applications
Effects of differently shaped TiO2NPs (nanospheres, nanorods and nanowires) on the in vitro model (Caco-2/HT29) of the intestinal barrier | Particle and Fibre Toxicology | Full Text
Gold nanospheres and nanorods for anti-cancer therapy: comparative studies of fabrication, surface-decoration, and anti-cancer treatments - Nanoscale (RSC Publishing)

### Traumatic Brain Injury
Injury in review, 2020 edition: Spotlight on traumatic brain injuries across the life course
Traumatic Brain Injury-Related Emergency Department Visits, Hospitalizations, and Deaths – United States, 2007 and 2013 – PMC
Epidemiology of severe traumatic brain injury - Surveillance Report of Traumatic Brain Injury-related Emergency Department Visits, Hospitalizations, and Deaths
Traumatic Brain Injury: An Overview of Epidemiology, Pathophysiology, and Medical Management – ScienceDirect
Epidemiology of Traumatic Brain Injury in Europe: A Living Systematic Review | Journal of Neurotrauma
Surveillance Report of Traumatic Brain Injury-related Emergency Department Visits, Hospitalizations, and Deaths