



zentek

Corporate Presentation
June 2022

NASDAQ: ZTEK

TSXV: ZEN

Forward-Looking Statement & Disclaimer



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Who we are



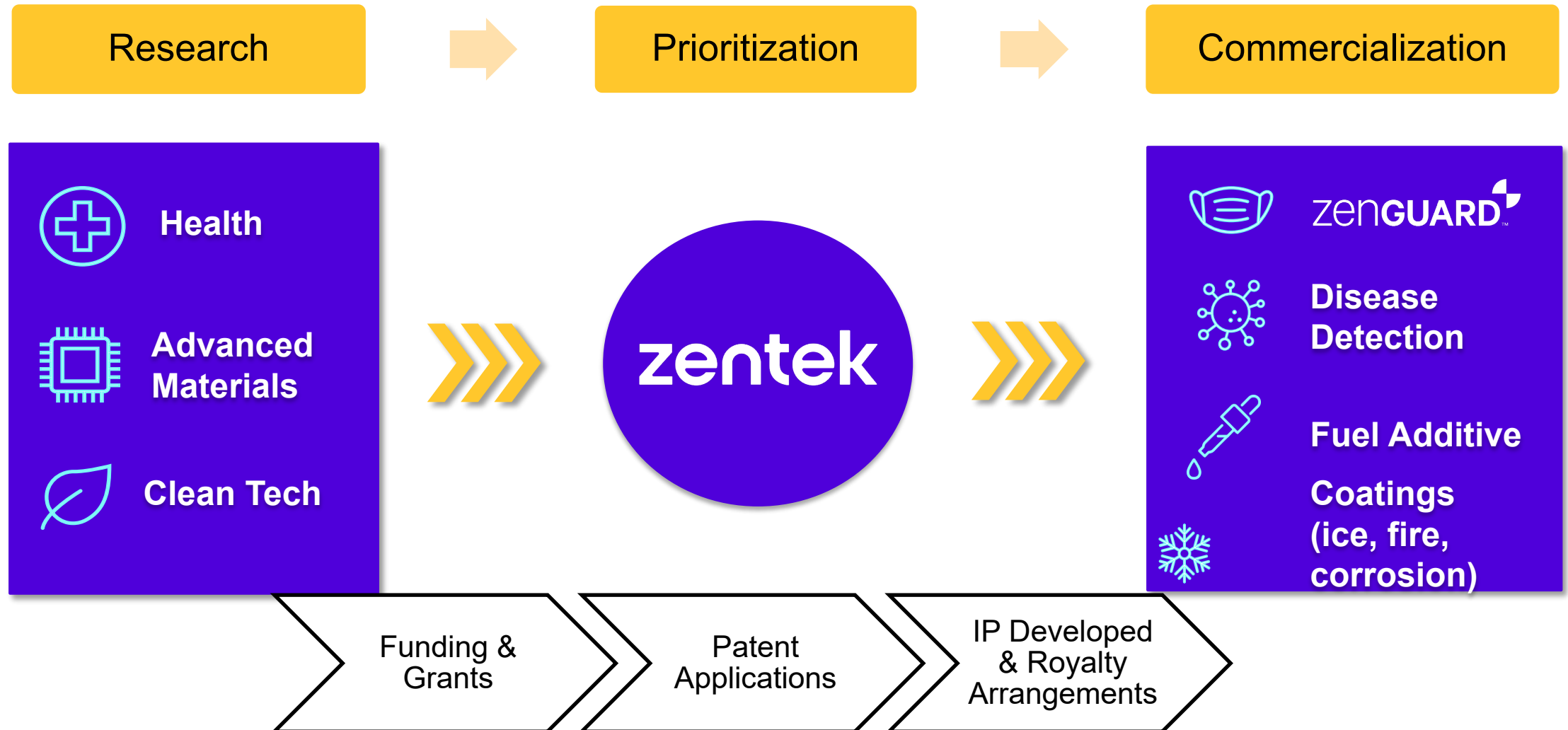
Zentek is a Canadian, IP development and commercialization company focused on next-gen healthcare solutions in the areas of prevention, detection and treatment.

SUSTAINABLE DEVELOPMENT GOALS



zentek

Improving lives through nanotechnology.



NASDAQ: ZTEK

TSXV: ZEN

- ~US\$250M market capitalization (no debt)
- Completed capital raise of C\$33M (~US\$26) in January 2022
- **Nasdaq trading commenced on March 22, 2022**

	ZTEK	ZEN
Exchange	NASDAQ	TSXV
Recent Price	\$1.99 (a/o 6/10/22)	C\$2.56 (a/o 6/10/22)
52 Wk. Range	\$1.36 - \$5.95	C\$1.71- C\$7.50
Market Cap	~\$197M (a/o 6/10/22)	~C\$254M (a/o 6/10/22)
Avg Daily Vol	~305K	~227K
Shares O/S	99.1M (~106.6M FD)	
Insider Ownership	3.9%	
Institutional Ownership	0.03%	
Debt to Capital	0%	

IP development and commercialization company focused on **next-gen, nanotechnology-enabled healthcare solutions**

Robust IP development pipeline with near-term commercialization opportunities:



ZenGUARD™ for PPE and potentially other markets



Aptamer-based rapid detection for numerous pathogens

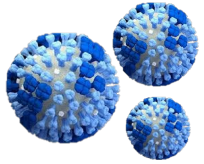


PREVENTION

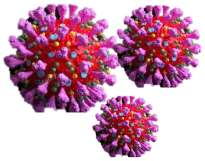
zenGUARDTM

Typical ASTM Level 3, 3-ply Surgical Mask

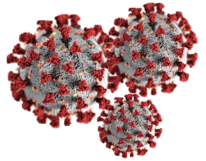
Seasonal Flu



Tuberculosis



SARS-CoV-2



zenGUARD™ Antimicrobial Coating

VS



- Patent pending, non-toxic, antimicrobial coating that has shown to be **99+%** effective deactivating numerous pathogens, including SARS-CoV-2
- BFE/VFE > **99.99%**¹: **98.9%** more bacteria and **97.8%** more virus particles compared to a typical ASTM Level 3, 3-ply uncoated mask

Note: Season flu and tuberculosis visuals for illustration purposes only and have not yet been tested

1. Testing completed by GAPLAB Environmental Microbiology

zenGUARD™ Antimicrobial Coating

ZenGUARD™ on masks, and potentially on other PPE to help protect frontline workers and the public and to reduce the spread of pathogens (including and beyond COVID-19)



- ✓ Health Canada has authorized the sale of ZenGUARD™ ASTM Level 3 disposable face mask
- ✓ Testing showed no shedding of coating, no skin irritation, no air flow restrictions¹

**Health Canada
Authorized**

1. Shedding and air flow testing completed by Cambridge Materials Testing Ltd.; skin irritation testing completed by Nucro-Technics Inc.



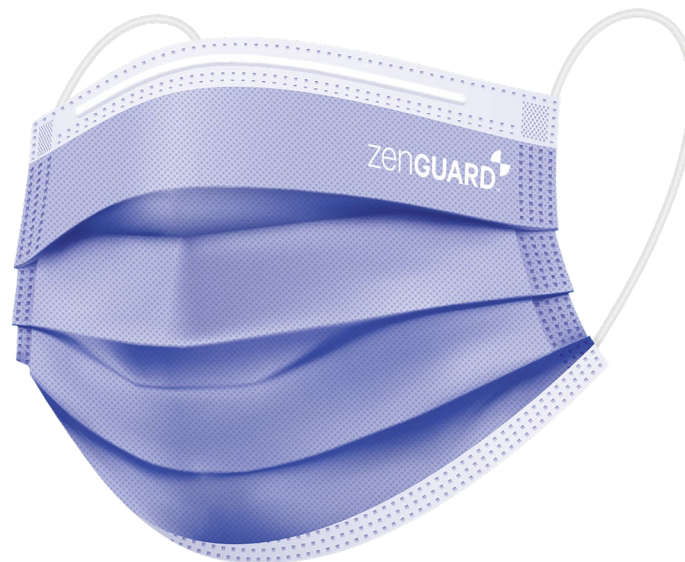
Health Canada
Authorized

> US \$52B¹
Personal Protective Equipment
(PPE)



ZenGUARD™ on masks, and potentially gloves and other PPE to help protect front-line workers, the public and reduce spread of pathogens (including and beyond COVID-19)

**Antimicrobial
Coating**



> US \$66B²
Indoor Air Quality



ZenGUARD™ potentially used on air filters to kill airborne pathogens in homes, schools, hospitals and commercial/industrial spaces

¹ Source: 2019 estimate per fortunebusinessinsights.com; over \$90B in 2027

² Source: 2020 global HVAC filter estimate of US \$12.9B per fortunebusinessinsights.com; 2020 US furnace filter market estimated at US \$21.3B per researchandmarkets.com. Management estimates US represents 40% of global furnace filter demand for illustrative purposes only

Disposable Mask Market Opportunity



Assumptions:

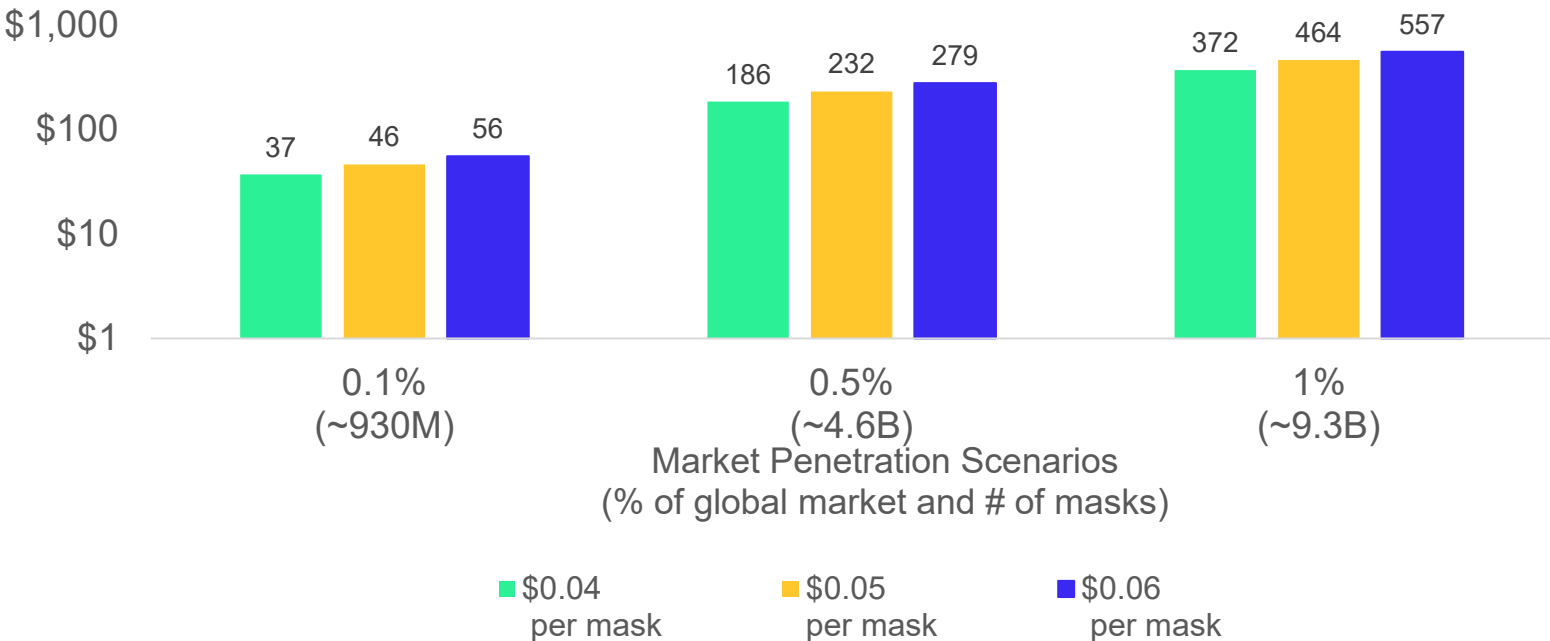
- 1.5 trillion masks being used globally per year ¹
- We believe steady state demand could be ~60% of current need or ~930 billion
- We assume gross margin per mask could range from \$0.04 to \$0.06
- Secular shift in approach to PPE expected by Zentek to support global demand above pre-pandemic levels (hospitality, food, janitorial etc.)



Health Canada
Authorized

Market Penetration and Gross Margin Scenario Analysis

(For Illustrative Purposes Only²)



Potential opportunity above relates to **one type of PPE**;
anticipate potential opportunities with **forms of PPE** and **air filtration**

¹ Source: Estimate per ACS Publications “COVID-19 Pandemic Repercussions on the Use and Management of Plastics” (accessed Jan 2021)
² Such information is being provided for illustrative purposes only to demonstrate the potential impact to the Company if certain market penetration thresholds are realized. The Company can make no warranty on whether or not such market penetrations can or will be achieved, and the reader is cautioned that this information may not be appropriate for any other purpose and the reader should not place undue reliance on such information. This information, is, without limitation, based on the assumptions set out herein and subject to certain risks including, without limitation, the risks described in the Company’s public filings on SEDAR. The Company’s actual financial position and results of operations may differ materially from management’s current expectations. Such information is presented for illustrative purposes only and may not be an indication of the Company’s actual financial position or results of operations

As Zentek seeks to gain access to new markets, reliable, high-capacity and high-quality production with additional sales channels are crucial to our global success.

- **EkoMed** (Turkey) – 120 customers in countries worldwide.
- **Trebor** (Canada) – First Canadian manufacturer
- **GMAF** – Denmark (recyclable mask)
- **Additional Canadian Capacity** (TBA)
- **Large US Producer/Distributor** (TBA)
- **Latin/South American Distribution** (TBA)
- **Australian Producer** (TBA)
- **Middle East Distribution** (TBA)
- **India Distribution** (TBA)



Commercialization

- Received a medical device establishment license (**MDEL**) from Health Canada, permitting Zentek to manufacture, and distribute all Class I medical devices
- Receiving direct retail orders for ZenGUARD™-enhanced surgical masks under Health Canada MDEL
- Definitive supply agreement signed with EkoMed Global Inc., a globally integrated manufacturer and distributor of PPE
- Canadian Government test program for ZenGUARD™-enhanced HVAC filters; goal is to show technology can achieve a net reduction in the airborne viral load and prequalify for Government procurement





DETECTION



**Improving
Health
Outcomes**



	RT-qPCR (gold standard)	Aptamers	Antibodies
Accuracy	Very low limits of detection (~100 cp/ml); typically used at 300-400 cp/ml	Low limits of detection (1,000 cp/ml); potential for as low as ~100 cp/ml	Higher limits of detection required (>10,000 cp/ml)
Collection Method	Nasal	Saliva or Nasal	Primarily Nasal
Speed	Up to 1 hour	7-10 minutes	~15 minutes
Cost	>\$50 per test	~\$20 per test	~\$20 per test
Complexity	Requires lab technicians and infrastructure	Public use	Public use

Table includes estimates based on publicly available information; comparison is for illustrative purposes based on potential for aptamer-based testing

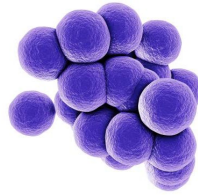
Potential to combine **PCR-like accuracy** with **speed, price and simplicity** of rapid antigen testing could be instrumental in **improving health outcomes globally**

Disease Detection Platform

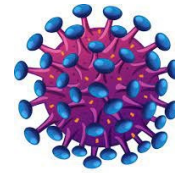
Our simple and fast technology can potentially detect numerous pathogens to:

- *Identify infections sooner*
- *Potentially end outbreaks faster*
- **Empower governments, health agencies & individuals worldwide**

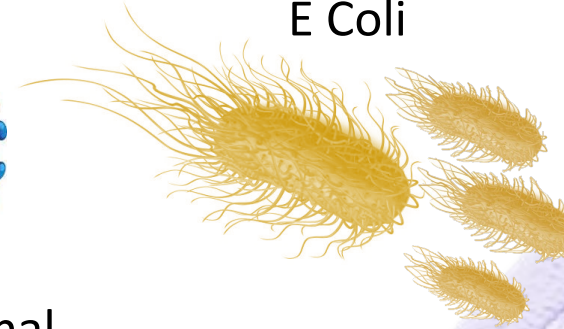
Strep Throat



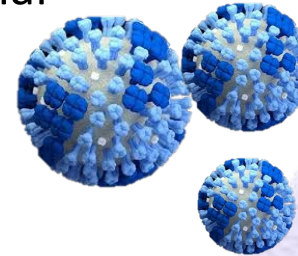
HIV



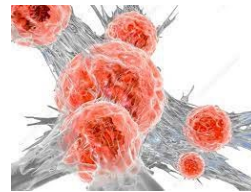
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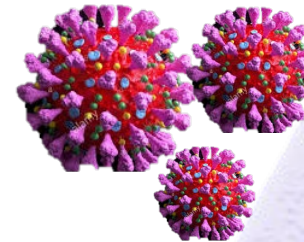
Seasonal Flu



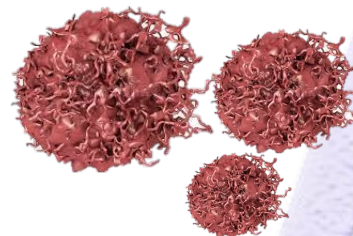
Other Cancer Cells



Tuberculosis

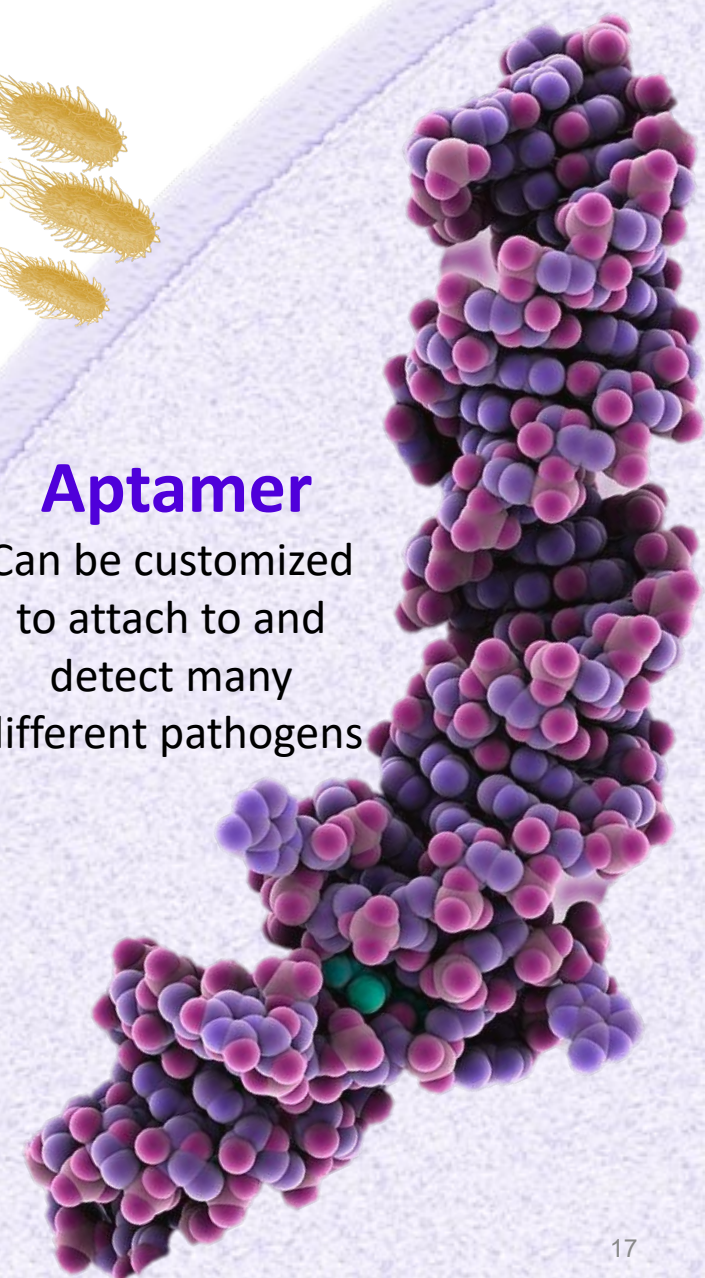


Colon Cancer



Aptamer

Can be customized to attach to and detect many different pathogens



Our Aptamer-Based Rapid Technology is:

SIMPLE

Saliva-based tests are easier to use with less discomfort

FAST

Test results provided in 7-10 minutes

ACCURATE

Impedance-based detection enables low detection limits

SCALABLE

Aptamers are synthetic molecules that can be customized to potentially target different pathogens

AFFORDABLE

Simple, low-cost hardware and disposables lend themselves to frequent point-of-care testing

We believe this combination is unique in the market, and **Zentek** is working diligently to optimize the technology and bring it to market as efficiently and effectively as possible

>2.6B

COVID Tests
Administered Globally¹

- Pandemic highlights the importance of rapid, accurate testing
- Simple, low-cost options and familiarity anticipated to make testing even more widespread further supporting demand

\$23.4B

2020 Global Rapid Test Kit
Market Estimate²

Our simple and fast technology can potentially detect numerous pathogens to:

- *Identify infections sooner*
- *Potentially end outbreaks faster*
- *Empower governments, health agencies & individuals worldwide*

**We believe our technology could play a significant role
in this compelling and enduring growth story**

Notes:

1. <https://www.worldometers.info/coronavirus/>
2. <https://www.researchandmarkets.com/reports/5238566>

Zentek develops and commercializes IP for next-gen, nanotechnology-enabled healthcare solutions
Robust IP pipeline with large-scale, high-growth commercialization opportunities



- Building on Health Canada authorization of **ZenGUARD™** enhanced masks
- Potential further commercialization of **ZenGUARD™** coating for **PPE markets & Indoor Air Quality market**

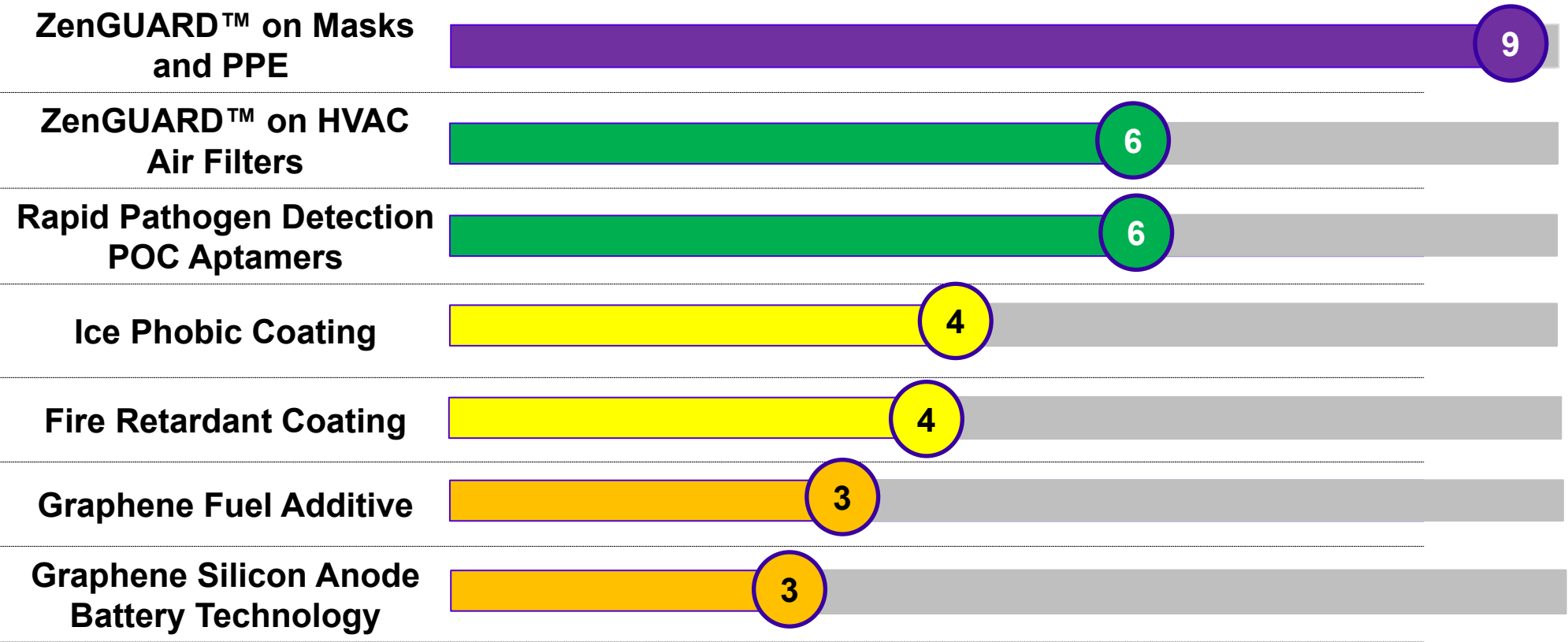


- Additional testing for manufacturing, marketing and distribution of our **rapid detection platform**



- Continuing to develop **high-impact healthcare applications**
- Existing and growing **sustainability-focused IP** pipeline in the areas of advanced materials and clean tech

Development & Commercialization Roadmap



Technology Readiness Levels



Production / Development



Technology Demonstration



Research and Deployment

zentek

Thank you!

Ryan Shacklock, Zentek
rshacklock@zentek.com

Tyler Dunn, Zentek
tdunn@coreir.com



Facebook - facebook.com/zentekltd



LinkedIn - linkedin.com/company/zentekltd/



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Instagram - instagram.com/zentekltd



YouTube - youtube.com/c/zentekltd



APPENDIX

In Vitro Efficacy

- Our patent pending compound has shown 99.9% effectiveness against Gram + and Gram – bacteria, including antimicrobial resistant (AMR) organisms and fungi

Safety

- Cytotoxicity testing results recorded no adverse effects on lab animals after seven days of repeated dosing at several thousand times higher than the MIC

Potential

- Potential to address common and difficult-to-treat skin conditions and infections in the respiratory tract, digestive tract
- Initial focus will be dermatological applications for highly prevalent conditions

Clean Tech



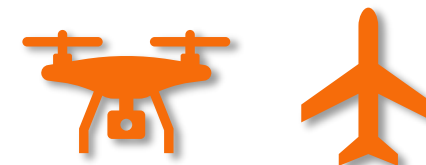
SUSTAINABLE DEVELOPMENT GOALS



Graphene-Based Fuel Additive

- Stable additive that has shown to **increase the fuel economy of diesel combustion by up to 10%** in initial testing
- Global diesel fuel market > \$1 trillion²
- Attractive sustainability-oriented opportunity

Advanced Materials



Carbon-Based Icephobic Coating

- Has shown to be a 96% improvement over aluminum and 80% improvement over icephobic threshold
- Aircraft de-icing market approximately \$1.3 billion¹

Robust and **growing IP pipeline** in multiple verticals with large-scale, high-growth, **sustainability-oriented** commercialization opportunities

¹ https://www.marketsandmarkets.com/Market-Reports/aircraft-de-icing-market-59898956.html?utm_source=Prnewswire&utm_medium=Referral&utm_campaign=PaidPR

² <https://www.marketwatch.com/press-release/diesel-market-size-in-2021-with-42-cagr-top-countries-data-where-are-manufacturers-anticipated-to-accrue-highly-lucrative-gains-detailed-analysis-in-93-pages-report-2021-11-05>

- Filed a provisional patent for an innovative Graphene Oxide-Metal-Organic Framework (GO-MOF) compound for use in fire retardant products
- Contains only components that are generally considered environmentally friendly, and no solvents or toxic chemicals
- By increasing the temperature in the coating, the thermal decomposition of the fire-retardant components expands making a barrier between the substrate (wood, in this example) and the flame
- While the temperature reached 400 degrees Celsius on the side with flame applied, the temperature only reached 85 degrees Celsius on the opposite side

Watch the Live Demonstration Here:

<https://www.youtube.com/watch?v=18ozphRx1Tc>





Greg Fenton - *Chief Executive Officer, Director*

Seasoned investment professional, with a Bay Street career spanning nearly 30 years. He has worked in various capacities with ever-increasing responsibility in both the Canadian banking and investment management sectors. Greg has been a partner in three investment management firms, heading the Risk Solutions Group at Scotiabank and leading Liability Driven Investment Group at National Bank Financial. His experience spans many disciplines: capital markets, investment management, actuarial, pension, insurance, accounting, tax and risk management.



Dr. Francis Dubé - *Executive Chairman, Director*

An entrepreneurial mindset with a science and healthcare background, Francis brings a leadership that is inclusive and leads to strong team building with a focus on success. Previously, Francis was a director and Co-founder of Cannacure Corp., a private cannabis company that he saw to a successful buyout. Francis has significant experience in strategic planning, fundraising and capital markets.



Brian Bosse - *Chief Operations Officer, Director*

Brian has been a respected professional investor for nearly 30 years with corporate capital allocation policy being his key business specialty. Formerly Brian served Dundee Corporation's Goodman & Company Investment Counsel as portfolio manager of the Goodman Bluespring Fund. He earned an honors degree from the Lazaridis School of Business and Economics in Waterloo, Ontario plus the Chartered Financial Analyst designation. Brian joined Zentek in May 2018 as director and officer following a successful proxy battle.



Dr. Yingfu Li - *Professor in the Department of Biochemistry and Biomedical Sciences*

Dr. Li is a Professor in the Department of Biochemistry and Biomedical Sciences at McMaster University. He earned a Ph.D. in Biochemistry from Simon Fraser University, where he discovered a DNA molecule that catalyzes porphyrin metalation, which won him the Governor General Academic Gold Medal and Natural Sciences and Engineering Research Council of Canada Doctoral Prize. He was awarded a Medical Research Council of Canada postdoctoral fellow and carried out his postdoctoral research at Yale University where he studied a series of catalytic DNA molecules for DNA phosphorylation, DNA capping and DNA ligation. Dr. Li's addition to our Advisory Board ensures his knowledge, experience and advice will continue to help the Company bring this highly differentiated and scalable rapid detection platform to market.



Dr. Joseph Armand Korkis - *Board-Certified Otolaryngologist*

Dr. Korkis is a board-certified Otolaryngologist and Head and Neck surgeon. He is a graduate of the Royal College of Surgeons in Ireland and spent 9 years in post-graduate studies in Ireland and Canada. He is the assistant Clinical Professor in the department of Otolaryngology and Head and Neck surgery at McMaster University. Dr. Korkis' experience and advice – along with that of Dr. Li and Dr. Ken Reed, a Harvard trained dermatologist as announced on June 30, 2021 – is expected to add tremendous value as ZEN continues to execute on its health care strategy



Kenneth Reed - *M.D.*

Kenneth Reed, M.D. is a board-certified dermatologist in private practice and serves as a scientific advisor to several innovative biotechnology companies. After completing a residency at the Harvard-MGH combined dermatology program, he established a clinical practice in a Boston suburb, DermAsap, and has continued as a principal investigator for a number of biopharmaceutical companies. He currently serves on the board of directors of Red Hill Biopharma and Minerva Biotechnologies. Dr. Reed is also a cofounder of Early Cell, a company focused on early detection of circulating fetal cells, and Lispiro LLC, which focuses on idiopathic pulmonary fibrosis, and age-related disorders



Ravi Kaza - *Advisor*

Mr. Kaza graduated from The Wharton School of the University of Pennsylvania with a BS in Finance Summa Cum Laude at age 19 and has spent the last 25 years consistently focused on disruptive technologies. He started his career in Silicon Valley at a prominent investment banking group founded by Frank Quattrone where he worked on numerous transactions involving companies such as Amazon, Apple, Northern Telcom, and Lam Research. Mr. Kaza then entered the money management business as a Vice President at Pequot Capital Management, at the time one of the world's largest alternative asset managers with a focus on technology investing. He was then hired by Stanley Druckenmiller as a Managing Director at Duquesne Capital Management to focus primarily on technology investing.

In 2003, Mr. Kaza founded Seasons Capital Management, which he helped grow into a multi-billion-dollar alternative investment manager that oversaw several technology-related investment strategies. In 2010, Mr. Kaza shifted his focus to running primarily internal capital with a continued primary focus on disruptive technologies. Consistent with this focus, Mr. Kaza was introduced to the Zentek management team during the Summer of 2021, when he became a shareholder.