

## Company Highlights

- An emerging high- tech graphene materials company (SMB, Publicly Traded, TSV) with a strong competitive advantage
- Large supply of graphene precursor material from the globally unique Albany (Northern Ontario) deposit
- Albany graphite converts easily to high value graphene due to its unique characteristics
- Solid business plan to rapidly enter the graphene market by Q1 2020

## Company Discriminators

- Strong, experienced and innovative management team
- Partnered with Indigenous group (Constance Lake First Nation) in the development of mine site
- Focused on the high-growth graphene market while developing innovative applications, in conjunction with key Canadian academic centers of excellence
- Strong Intellectual Property (IP) position
- Commitment to high environmental and socially responsible standards

## Benefits to Prime/OEM/Tier 1

- Satisfies all ISED eligibility criteria for Investment Framework, & General/R&D/Venture Capital ITB Investments, 100% CCV
- Addresses many of Canada's KICs, & has a presence in multiple regions of Canada, either directly or in collaboration with academic partners
- Contributes to many of the Value Proposition themes (R&D, Skills Development, SMB, Exports)

## Benefits to Canada

- Contributes to our Knowledge Based Economy goals
- Has potential to offer innovative, technology break-through solutions in many KIC segments including: Advanced Materials; Armour; Aerospace Systems & Components; and In-Service Support (Corrosion & Wear Protection)
- Pro-active member of industry/academia collaboration - intended to ensure that Canada continues to innovate in several core KIC areas & remains on the leading edge of development in Body & Vehicle Armour; Composite Materials
- Contributes to the process of regional balance of knowledge-based jobs in high growth sectors
- Responsive in addressing Canada's major goals of aboriginal & gender equality and growth, in the high-tech society

## Benefits to End User

- ❖ Provides technologies that contribute to the efficiency, safety and security of our national defence forces
- ❖ Lighter weight, greater protection for individual soldier/first responder systems, and longer operating lives, strength, endurance, at reduced cost for aircraft, automobile and vehicle systems
- ❖ Higher efficiency electronics, batteries, filtration membranes, cleaner fuels, superior lubricants

## ZEN Graphene: The future of advanced materials, clean energy & green energy

**Graphene Coatings** - Can greatly improve corrosion resistance, reduce friction and can be hydrophobic reducing ice formation for aerospace applications.

**Enhanced Polymers** – Increases strength and flexibility while potentially reducing overall weight.

**Conductive Polymers** – Electromagnetic shielding.

**Semi-conductive Polymers** - Electrostatic dissipation.

**Membranes** – Desalinization and low-energy dehumidification.

**Fuel Additive** – Graphene oxide in diesel/jet fuel improves fuel economy and reduces greenhouse emissions.

**Heavy Metal Scavenging** – Graphene quantum dot/nanocellulose membranes are a recyclable material capable of removing industrial contamination.

**Graphene Quantum Dots** – Photovoltaics, displays, biomedical applications and material enhancement

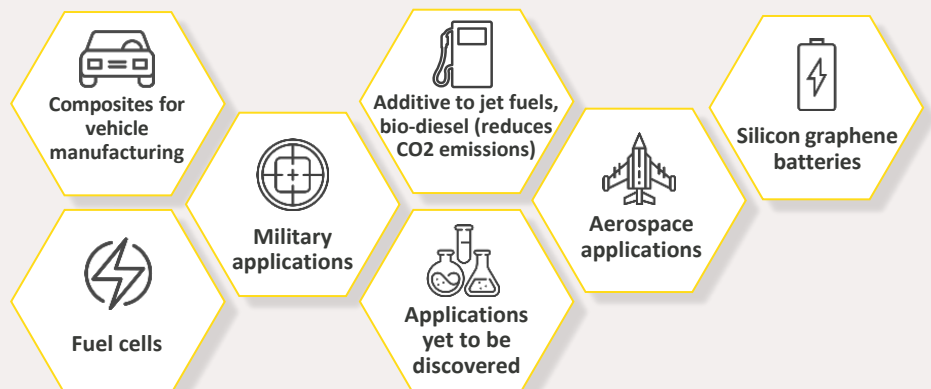
**Enhanced Materials** – Graphene in aluminum improves grain refinement without reducing conductivity.

**Hydrogen Storage and Production** – Graphene is an ideal catalyst for water splitting (10X more efficient than platinum catalysts) and can store hydrogen in a solid state.

**Advanced Batteries** – Anode energy densities are 1500mAh/g in graphene-enhanced aerogels and 840mAh/g with reduced graphene oxide. Graphene has greater conductivity and improves cold weather performance.



### Potential Graphene Markets



#### Contact Info:

Francis Dubé, CEO & Director, [drfdube@zengraphene.com](mailto:drfdube@zengraphene.com) / Tel: (289) 821-2820

Colin van der Kuur, Head of Research, [cvanderkuur@zengraphene.com](mailto:cvanderkuur@zengraphene.com) / Tel: (778) 808-6424

Monique Manaigre, Government Relations & Account Manager, [mmanaigre@zengraphene.com](mailto:mmanaigre@zengraphene.com) / Tel: (613) 818-9309

ZEN Graphene Solutions, 24 Corporate Court, Guelph, ON, N1G 5G5,

T: 1 844 730 9822 W: [www.zengraphene.com](http://www.zengraphene.com) E: [info@zengraphene.com](mailto:info@zengraphene.com)

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