

Collaboration is the Key to Graphene's Commercialization





#Commercialization of **#graphene** will only successfully happen when we work together in collaboration, fitting all the necessary pieces together – the science, material and innovation – and matching it with financial resources and industry's products and ideas. **#noonecandoitalone #unite**



Next Five Years

- Importance of 'critical materials' will increase
- Importance of supply will be paramount scarcity and security
 - Commercialization is a global race
 - Scale and reach will matter
 - **Billions in play**



Grafoid - The Company

- Graphene R&D, application developer and technology licensing company
- Global company with a strong focus on China
- Patented 1-step process for producing high-quality affordable graphene
- Develop graphene apps in 4 areas: energy, composites, coatings, membranes
- Look for strategic corporate partners to develop applications
- Transitioning from an R&D focus to commercialization
- Hub is *Grafoid's Global Technology Centre* Canada





Grafoid Global Technology Centre

- Former ALCAN aluminum research facility, based in Kingston, Ontario. A 20,000 m² state-of-the-art technology R&D center.
- First fully-operational MesoGraf[™] graphene production facility in North America.
- Holds the engineering expertise to advance Grafoid's scientific developments to the commercialization stages for MesoGraf[™]-based materials, products and applications.







An Advanced Technology Graphite Source www.**focusgraphite**.com TSX-V:FMS



GRAFOID

A Complete Solutions Graphene Company www.**grafoid**.com







A Lithium Technologies Innovator and Mining Developer www.**strialithium**.com TSX-V:SRA



A Leading Supplier of NextGen Battery Technologies www.**braillebattery**.com





- Novel technology for deposition of graphene and chemically functionalized graphene coatings
- For metal, glass, polymer, ceramic and other substrate applications
- Ability to control levels of surface coverage, thickness, etc. to meet requirements
- Overcomes barriers to entry for graphene coating technology
- For industries looking to develop next generation materials and products with a cost effective way of laying down graphene coatings on large surface areas

GRAFOID



- Grafoid's GPURE graphene membranes form a group of novel disruptive design and fabrication technologies intended to serve as high performing alternatives to conventional industrial polymer and silicon membrane materials.
- Our GPURE graphene-polymer membrane technologies open the door for the global industry to consider the advantages of a low-cost, high performing option to conventional polymer membrane chemistries.





The AIRGRAF Project

- Next generation UAV battery technology
 Graphene energy storage project
- Develop new graphene-lithium polymer battery technology
- Higher energy density safer packaging
- 'The Holy Grail' *Time in Air*

AIRGRAF

3.5M € project labelled by Eurogia



Consortium

- 7 enties, 3 countries
 - Canada GRAFOID



- Spain CN2[®] Percelen Institut Català
- **Partner exprtise**
 - High-purity graphene production and characterization ٠
 - Graphene derivative coatings ٠
 - Graphene composite case design ۲
 - Graphene battery material development ٠
 - Battery cell/pack design and management systems ٠
 - **UAV prototype** development and operational testing ۲



Key Market Applications Agriculture Energy Public safety Transport Telecoms Mining/ **Delivery**/ Construction **E-commerce**



Economic Impact / Commercial Potential

- Government and private sector forecasts see *significant growth*
- Li-ion technology component market for UAVs is projected to be \$2B in 2020
- *Commercialization* opportunity exists for consortium members
- **Demonstration of collaboration** in the graphene sector



THANK YOU

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