

# GRAFOID

A Complete Solutions **Graphene** Company

Corporate Presentation  
August 2014

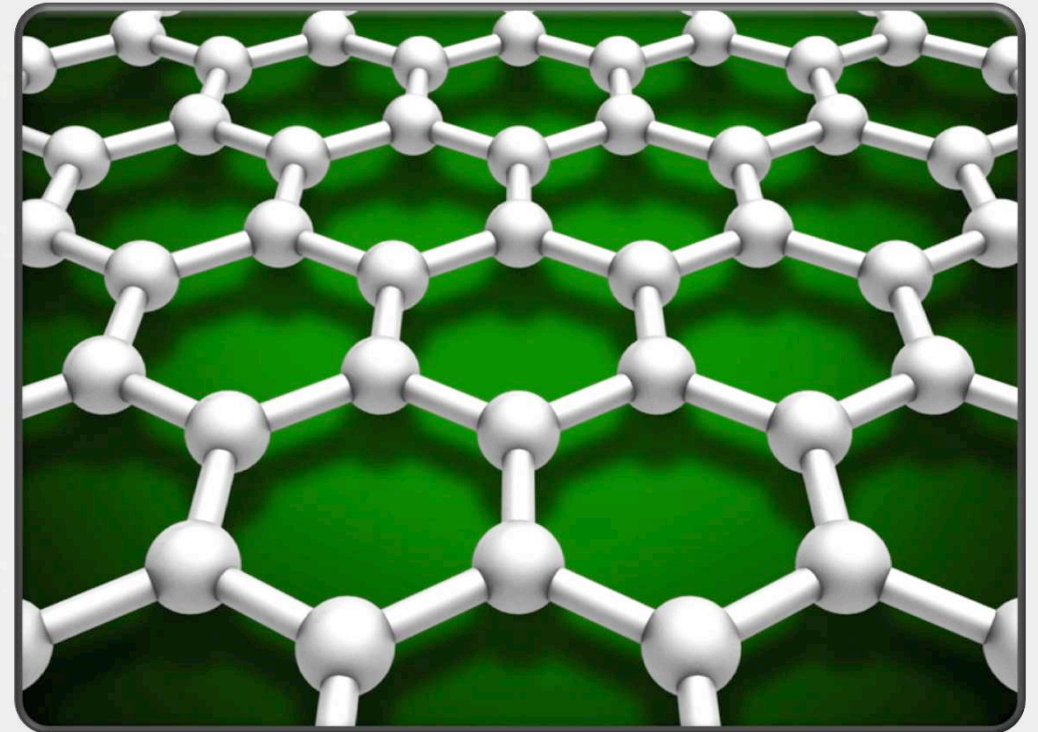
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Graphene is the revolutionary miracle material that will forever change the world.

**Grafoid** has established itself as a global leader in graphene innovation.



# What is Graphene?

# What is Graphene?

- ◆ A two-dimensional nanomaterial
- ◆ Discovered by physicists Sir Andre Geim and Sir Konstantin Novoselov
- ◆ The Nobel Prize was awarded for ground-breaking experiments in 2010
- ◆ Graphene holds the potential to bring about a new era in materials
- ◆ The addition of graphene achieves a number of enhanced properties
- ◆ The total industry size impact exceeds \$100 billion
- ◆ The market for graphene remains immeasurable
- ◆ Graphene will change the way we work, live and play

# Graphene's Revolutionary Material Properties

Graphene is a **One-Atom-Thick** Allotrope of **Carbon**

The **Strongest** Material Ever Measured

The **Thinnest** Material Known to Science

The **Stiffest** Material in the World

Highly **Flexible & Incredibly Light**

The Most **Impermeable** Material on Earth

Record **Thermal & Electrical Conductivity**

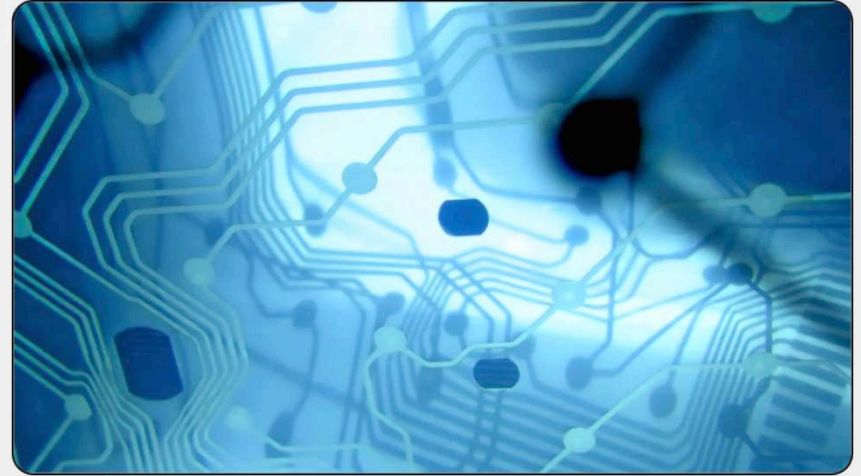
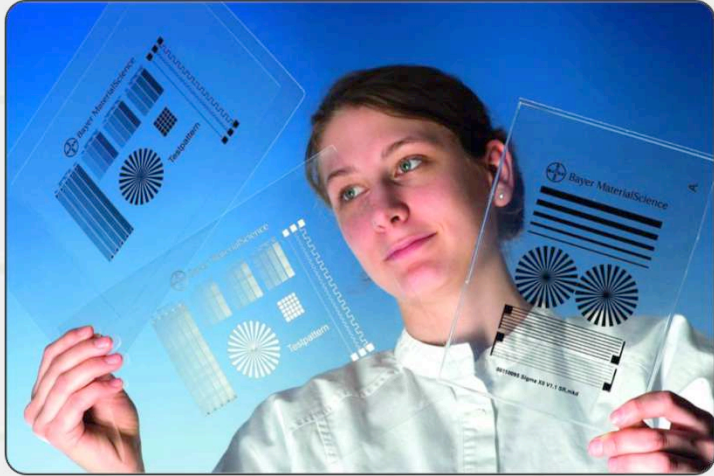
Incredibly **Energy Efficient**

# Graphene Applications

“The properties of graphene are truly amazing, and the potential applications extend across every industrial sector.”



# Graphene Applications



# Energy Storage Applications



# Graphene Applications

- ◆ Plastics and Polymers
- ◆ 3D Printing
- ◆ Coatings
- ◆ Energy
- ◆ Computers and Electronics
- ◆ Water Supply
- ◆ Communications
- ◆ Construction and Industry
- ◆ Coatings and Lubricants
- ◆ Automotive
- ◆ Aerospace
- ◆ Marine
- ◆ Chemicals
- ◆ Manufacturing
- ◆ Safety and Environmental
- ◆ Military and Defense
- ◆ Food Production
- ◆ Medical

Graphene is a potentially disruptive technology to all of the  
aforementioned industries and applications.

“The greatest challenge in commercializing graphene is how to produce high quality material, on a large scale at a low cost – and in a consistent, reproducible manner.”

# The key to successfully commercializing graphene is based on 3 primary factors:

Having unlimited access to a secure source of high-grade, high-quality graphite

Being able to produce pristine graphene on an economically scalable basis

Partnering with the right players in the development of the right applications

**Grafoid** excels in all three areas, overcoming the barriers to graphene commercialization.

# Grafoid – A Complete Solutions Graphene Company



“The key vendors dominating this [graphene] market space are BASF, **Grafoid Inc**, IBM Corp, and Samsung Electronics Co.”

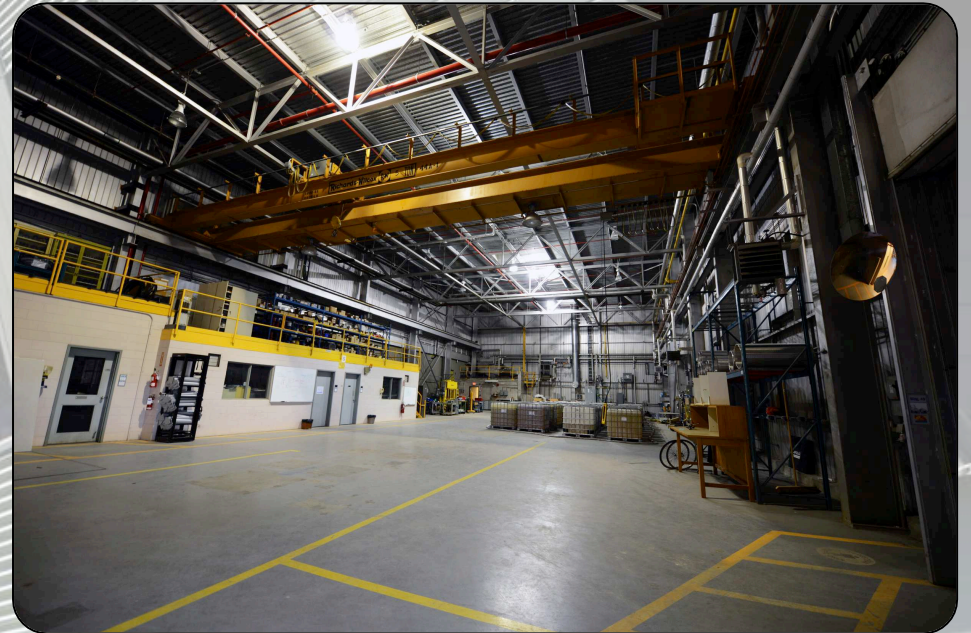
– *Global Graphene Markets 2012-2016*  
Infiniti Research Limited, October 2013

# Grafoid

- ◆ Grafoid is a graphene research, development and investment company
- ◆ Has established itself as a global leader in graphene innovation
- ◆ Grafoid's process means low cost, high-purity graphene
- ◆ Grafoid is the global platform to deliver mine-to-market products
- ◆ Grafoid's patented **MesoGraf™** now sets the global standard for graphene
- ◆ **MesoGraf's™** performance is peerless
- ◆ Grafoid enables its partners to develop applications and markets
- ◆ Grafoid is unique in that it provides ***expertise, product and process***

# Grafoid Global Technology Centre

- Former ALCAN aluminum research facility, based in Kingston, Ontario
- World-class 220,000-square-foot, state-of-the-art technology R&D center
- First fully operational **MesoGraf™** graphene production facility in North America
- Host to some of Grafoid's application development JV partners
- Holds the requisite engineering expertise to advance Grafoid's scientific developments to the commercialization stages for our **MesoGraf™**-based materials, products and novel applications



# What's Unique About Grafoid?



# How We Compare



Our Competitors

**Sells Graphene Solutions**



**Game-changing, one-step process to produce economically scalable graphene**



**A diverse company that doesn't depend on the success of one application**



**Partners with industry leaders worldwide to advance joint applications**



# How We Compare

Able to generate revenue from every market sector

MesoGraf™ – The Global Standard for Graphene

Environmentally friendly and sustainable

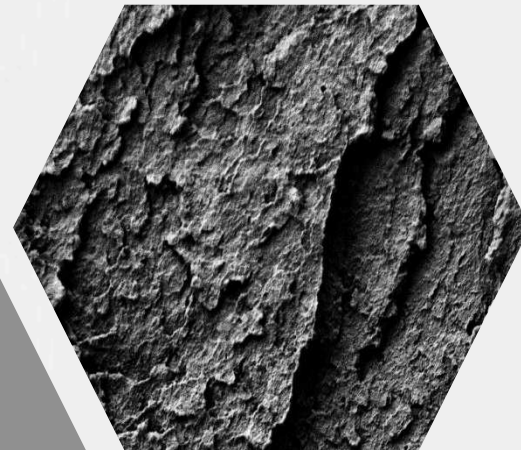
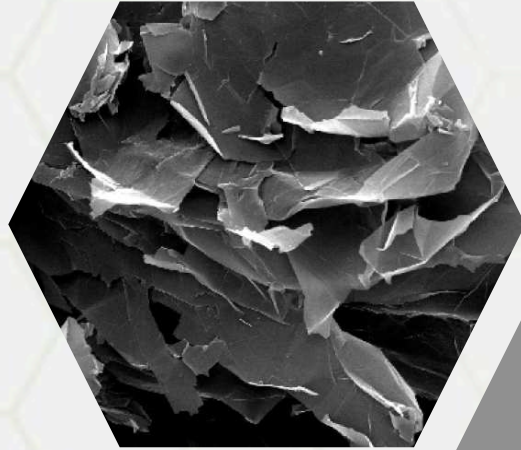


Our Competitors

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A green checkmark icon inside a hexagonal outline.	A red 'X' mark.
A green checkmark icon inside a hexagonal outline.	A red 'X' mark.

**Grafoid** brings world-leading expertise in graphene, resolves commercial scalability issues, tailors graphene for unique applications, and provides solutions for achieving success.

# The Grafoid Advantage



Most  
proclaimed  
manufacturers  
sell 'graphene'  
that is not  
graphene

Graphene is a  
very difficult  
product to  
work with

Expanded  
flake materials  
cannot be  
functionalized

# Grafoid's Operations





**Grafoid** is a technology innovation company.  
We are unique.

# MesoGraf™ – The Global Standard for Graphene



# Mesograf

Redefining Graphene

# MesoGraf™

MesoGraf™ is the first graphene to be trademarked in the world (May 2013)

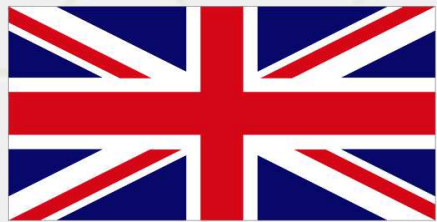
## MesoGraf's 5 Core Attributes



# Worldwide Graphene Market

## Research Investment

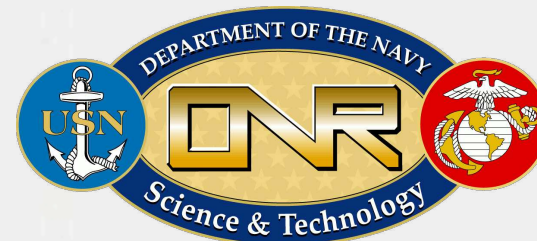
- ◆ Billions are being invested worldwide on graphene R&D
- ◆ Funding is critical for graphene's commercial success
- ◆ Geopolitically there's a strategic race to commercialize graphene



- ◆ Over 200 major corporations are currently funding graphene research

# U.S. & Canadian Government Involvement

- ◆ Both governments recognize the long-term economic imperative to support and foster graphene R&D
- ◆ Federal grants are available and Grafoid and its JV partners are successfully pursuing all eligible avenues for funding and partnering initiatives; significant formal announcements forthcoming
- ◆ Grafoid's joint venture with Rutgers University has received \$1.8m from the U.S. Office of Naval Research



# Worldwide Graphene Market

## Revenue Forecasts

- ◆ First commercially significant sales of graphene products before 2017
- ◆ The graphene market is expected to expand dramatically after 2017
- ◆ 60% CAGR (2015 – 2020)
- ◆ There are several known areas of growth
- ◆ Does not account for new frontier applications
- ◆ Potential is contingent on the affordability of graphene

# The MesoGraf™ Platform



# The MesoGraf™ Global Platform

- ✔ Grafoid is currently the world's largest producer of graphene
- ✔ Invested in the development of a proprietary process
- ✔ Lead to bulk production of **MesoGraf™**
- ✔ Demonstrated that the science works
- ✔ Launched a unique global platform



**FOCUS**  
GRAPHITE

**GRAPHITE**

ZERO

**Mesograp**  
from Grafoid

 **GRAFOID**

 **NUS**  
National University  
of Singapore

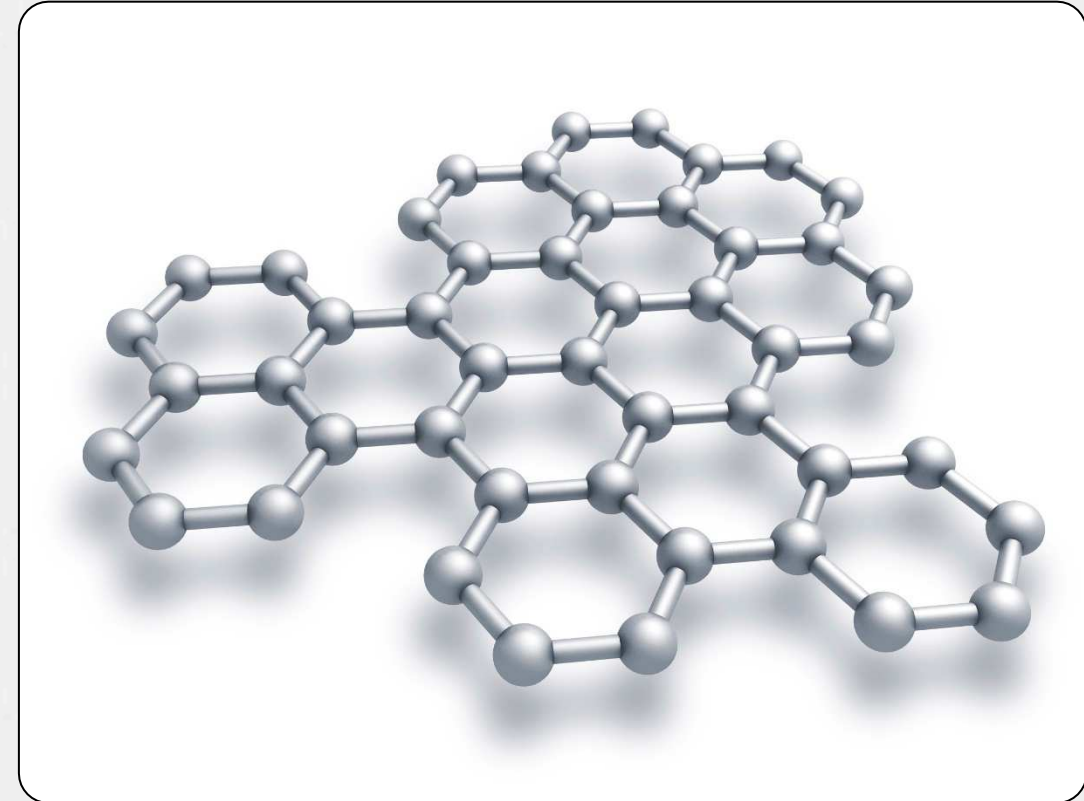
 **GRAFOID**



# The Grafoid Global Platform

# The Grafoid Global Platform

- ◆ Grafoid has entered into a number of high-profile development relationships
- ◆ Establishing JV relationships for the development of next-gen products
- ◆ 15 Joint Venture Partnerships underway (5 announced partnerships)
- ◆ Acquiring established businesses operating in key industries where **MesoGraf™** can provide a competitive advantage



Joint Venture  
Partnerships

Wholly Owned  
Subsidiaries



**GRAFOID**



Strategic  
Acquisitions

In-discussion  
Relationships

Academic  
Partnerships

# Partnerships



# Subsidiaries



CALEVIA



# Academic Partnerships & Affiliations





# Where is Grafoid Headed?

2014 is expected to be a breakout year in the graphene application development marketplace and Grafoid intends to:

- ◆ Assume a leading position in the global graphene industry
- ◆ Grow existing and attract new significant partnerships
- ◆ Further strategic corporate acquisitions
- ◆ Brand Grafoid as a global leader
- ◆ Promote Grafoid as the purest way to invest in the Graphene Revolution

# Near-Term Timetable



**MesoGraf™** Graphene Production



Further Relationships



**MesoGraf™** Application Development

# Summary

**MesoGraf™** is the global standard for graphene.

**Grafoid** is a complete solutions graphene company.



# Summary

- ◆ Grafoid brings expertise in graphene and provides solutions for success
- ◆ A standalone in the graphene world
- ◆ Proprietary technique to produce high-energy density graphene
- ◆ Trademarked suite of graphene products in **MesoGraf™**
- ◆ Significant first-mover competitive advantage
- ◆ Security of supply; Grafoid controls the supply chain
- ◆ Global network of sophisticated academic and commercial relationships
- ◆ Grafoid raised \$10m in private placement funding in U.S. and Canada (2013)
- ◆ 2014 private placement funding underway in U.S. and Canada

**Grafoid** is the purest way to invest in graphene.

**Mr. Gary Economo**

Chief Executive Officer and Founding Partner

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+1.613.238.7417

**Dr. Gordon Chiu, B.Sc., M.Sc., MSTP recipient, ND**

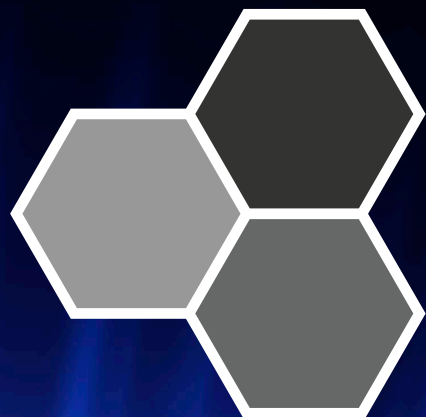
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