HYDROGRAPH

CSE: HG | OTCQB: HGCPF | FRA: M98

IGNITING MATERIAL CHANGE

Investor Presentation
October 2023

Forward-Looking Statement

This deck contains certain “forward looking statements” and certain “forward-looking information” as defined under applicable Canadian securities laws. Forward-looking statements and information can generally be identified by the use of forward-looking terminology such as “may”, “will”, “expect”, “intend”, “estimate”, “upon” “anticipate”, “believe”, “continue”, “plans” or similar terminology. Forward-looking statements and information include, but are not limited to: the use of the net proceeds from the previously announced private placement, anticipated benefits resulting from the Marketing Services Agreement, the future exercise of the Options, ability to successfully increase commercial scale production at its manufacturing facility, and the timing thereof, the potential valuation of Company, any EBITDA predictions, the commercialization of HydroGraph’s products that lead to customer contracts resulting in our potential valuation and EBITDA predictions, and the Company’s business plans and strategies.

Forward-looking statements and information are based on forecasts of future results, estimates of amounts not yet determinable and assumptions that, while believed by management to be reasonable, are inherently subject to significant business, economic and competitive uncertainties and contingencies. Forward-looking statements and information are subject to various known and unknown risks and uncertainties, many of which are beyond the ability of HydroGraph to control or predict, that may cause HydroGraph’s actual results, performance or achievements to be materially different from those expressed or implied thereby, and are developed based on assumptions about such risks, uncertainties and other factors set out herein, including but not limited to: HydroGraph’s ability to implement its business strategies; risks associated with general economic conditions; adverse industry events; stakeholder engagement; marketing and transportation costs; loss of markets; volatility of commodity prices; inability to access sufficient capital from internal and external sources, and/or inability to access sufficient capital on favorable terms; industry and government regulation; changes in legislation, income tax and regulatory matters; competition; currency and interest rate fluctuations; and other risks. HydroGraph does not undertake any obligation to update forward-looking information except as required by applicable law. Such forward-looking information represents management’s best judgment based on information currently available. No forward-looking statement can be guaranteed, and actual future results may vary materially. Accordingly, readers are advised not to place undue reliance on forward-looking statements.

HydroGraph is the most cost-effective producer of high purity graphene in the industry with game-changing **environmental** benefits

HYDROGRAPH

A Global Leading Graphene Manufacturing Company

With a patented, ***environmentally friendly***, process that produces the highest quality graphene at the greatest cost efficiency, we have begun commercialization

MARKET POSITION

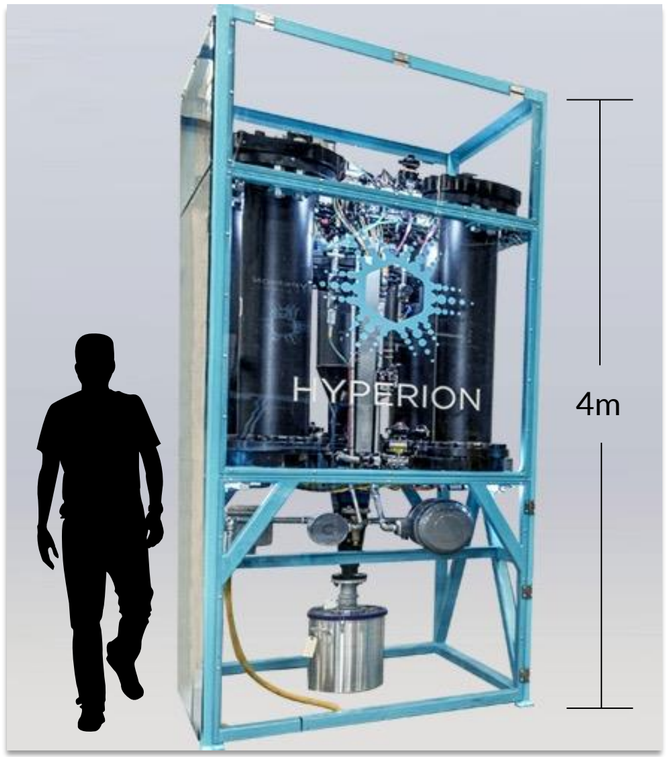
Strong customer response to HydroGraph's product and value proposition

- Patented Hyperion system produces 99.8% pure graphene with a high value to price ratio
- The Hyperion System is compact and modular allowing flexibility to build close to the customer, minimizing supply chain risk
- Can be nano-engineered for various applications, enabling integration of graphene into a multitude of materials
- Most environmentally friendly process in the world
- Engaged with 50+ customers
  - 20 different applications
  - 23 testing agreements/NDAs signed
  - 20 customers testing graphene in their products

ECONOMICS

A $2.5B graphene market opportunity

- Uniquely positioned for multiple high growth, multi billion-dollar markets
- Positioned to be the global leader in producing pure graphene at scale
- Each Hyperion System can produce over 10MT/year and about $2M in graphene sales with only $150k in Capex required
- EBITDA margin over 40%
- ~$8M in Hyperion System Capex will generate ~ $100M in graphene sales, +$40M in EBITDA annually



HydroGraph's Hyperion System
10 tonne/yr capacity

HYDROGRAPH

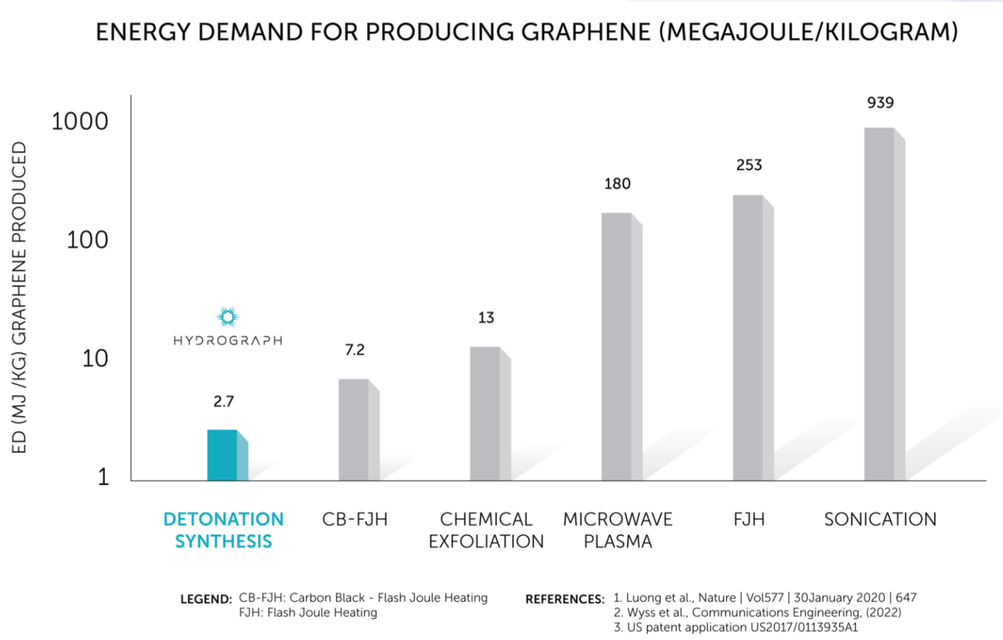
The HydroGraph Graphene Revolution – Igniting a Greener World

HydroGraph produces pristine graphene with the smallest environmental footprint

- Each Hyperion System saves 1,000 tonnes of CO_2 equivalent emissions
- No chemicals or solutions as part of the process
- No greenhouse gas emissions
- Minimal energy consumption

And helps customers reduce their environmental footprint, for example ….

- HydroGraph increases the mechanical properties of materials such as concrete, cement and composites by 30% to 50% requiring less of the original material to be produced
  - Reduces 450 kg of CO_2 per ton of concrete produced -- 2 billion tonnes of concrete produced annually
  - Converting 1% of total concrete production to use graphene will reduce CO_2 emission equivalent to taking 2.7 million cars off the road each year
- HydroGraph increases the life of lubricants by 24x, requiring less disposal and cleanup of spent lubricants

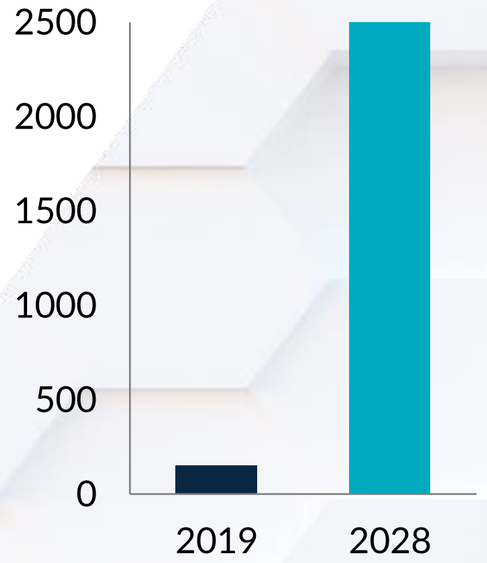


HYDROGRAPH

Graphene: The “Wonder” Material Of The Future Made Available Today

Graphene strengthens and extends the life of materials, reducing material waste and lowering carbon emissions generated in the production of various everyday materials, including lubricants, composites, coatings and cement

PROPERTIES	FACTS	APPLICATIONS
STRENGTH	200x stronger than steel	Composite materials & alloys— rubber, plastic, aluminium & concrete
FLEXIBILITY	Can bend & stretch to 120% of original size	Coatings, additives & wearable technologies
THERMAL CONDUCTIVITY	10x conductivity of copper	Composite materials— concrete, coatings, polymers etc.
IMPERMEABILITY	Hydrogen atoms cannot penetrate its structure	Filters, water purification, gas storage and hydrogen fuel cells
ELECTRICAL CONDUCTIVITY	1000x current capacity of copper	Longer battery life, semi-conductors
ELECTRONIC BEHAVIOUR	Electrons can move at near light speed through it	Improved speed / efficiency for computer chips
OPTICAL PROPERTIES	Highly transparent	Thinner, lighter screens and transparent tensile coatings



The global graphene market size valued at $90M in 2019 and is projected to reach $2.5B by 2028, growing at a CAGR of 50% from 2020 to 2028

(Allied Market Research)

Roadmap To Commercial Production

Product testing completed, ready for commercialization

2014	Q3 2016	Q2 2017	Q1/Q2 2021	Q4 2021	Q2 2022	Q1 2023	Q2/Q3 2023	2024
DISCOVERY	PATENT	LAUNCH	FUNDING/ GRAPHENE PLANT	PUBLIC LISTING	TECH PLATFORM	SCALE-UP	PRODUCT EXTENSION	ON-GOING REVENUE
Dr. Chris Sorensen at KSU discovers Detonation Process for producing high quality, low-cost graphene	U.S. patent awarded for the high-yield production of graphene, based on Detonation Process	HydroGraph formed to fund and commercialize green, cost-effective manufacture of graphene and other strategic materials	Private placement of $7.5M by Investment Houses PowerOne and Haywood Groundbreaking for production and commercialization facility in Manhattan KS	Company lists as HydroGraph Clean Power on the CSE	Hyperion technology platform proof of concept and prototype of green, low-cost production of hydrogen, followed by other valuable products	Commercial scale production capacity of graphene. Business development team engaging with customers and partners.	Commercial scale fractal graphene for lubrication market and reactive graphene for broader market	First significant multiyear customer contract

Best-in-Class Executive Team

More than 20 years' operating experience as an executive in industrial, specialty chemicals and alternative-energy sectors, plus 10 years leading PE portfolio companies. Held P&L responsibility for $1.2B business and involved in over $2B of capital investment and acquisitions across 12 countries.

Stuart Jara
Chief Executive Officer

A 15-year background in emerging technologies and portfolio management, with experience in investor relations; on HydroGraph board since lab scale; Director of Operations for Frontline Crossings, and Chief Operating Officer with Omada Technologies.

Kjirstin Breure
President

More than 30 years of experience as a finance and biz dev executive with previous roles held at Linde and Air Products; 10 years in CFO roles with small and mid-size companies; M.B.A. in finance from Wharton and a civil engineering degree from Lafayette College.

Bob Wowk
CFO

More than 25 years as a physicist; invented 3M's graphene-like carbon coatings and contributed to 190 invention submissions and 20 granted US patents. Authored more than 33 peer-reviewed papers and teaches at Western University, Canada.

Ranjith Divigalpitiya
Chief Science Officer

- Multiple start up experiences
- +100 years of combined industry experience
- Proven track-record of success in scaling technology
- CN +$1.6M personnel funds committed to date

HYDROGRAPH

CSE: HG | OTCQB: HGCPF | FRA: M98

Experienced Technical, Business Development and Finance Team

Stephen Corkill

VP Operations

As former VP of Engineering, Stephen developed Hydrograph's current production equipment and is building a working prototype for our hydrogen production as well. In his role as VP of Operations, he has evolved into commercial design and developing trade secrets for the business.

Chris Sorensen

VP R&D

As the former Cortelyou-Rust University Distinguished Professor in the department of physics at Kansas State University, Chris invented the the company's Hyperion technology. He has seven patents and nearly 300 publications and is a fellow of the American Physical Society.

Carl Kernizan

VP Business Development

Senior leader in the lubricants industry with 30+ years of pioneering product development, technical sales and business growth across the Americas and Europe. A expert in grease manufacturing and holds a PhD in physical chemistry. A proven innovator aligning strategy, R&D and operations. Holder of multiple patents and recipient of NLGI's prestigious Golden Grease Gun Award.

Mathew Lee

Chief Accounting Officer

Mathew provides accounting, management, securities regulatory compliance and corporate secretarial services for HydroGraph. He is CPA Charterholder and earned a B.Comm from the University of British Columbia.

Stefan Bossman

Lead Chemist

Stefan a Distinguished Professor emeritus at K State. He received his B.S. and PhD in chemistry from the University of Saarland, Germany. Previous posts include postdoctoral research associate at Columbia University, an assistant professor and subsequently an associate professor-ship in chemical and process engineering at the University of Karlsruhe, Germany. Stefan holds a PhD, has authored more than 200 publications and holds 14 patents.

Randall Zajac

Dir. of Business Dev. – Composites & Resins

Randall has an extensive background in composites including R&D, process engineering and biz dev roles. Notable accomplishments include process development at TPI in Newton, IA and working with the Advanced Composite Research Center at Lamborghini in education on designing parts, tooling, materials, and processes for SMC composite components.

HYDROGRAPH

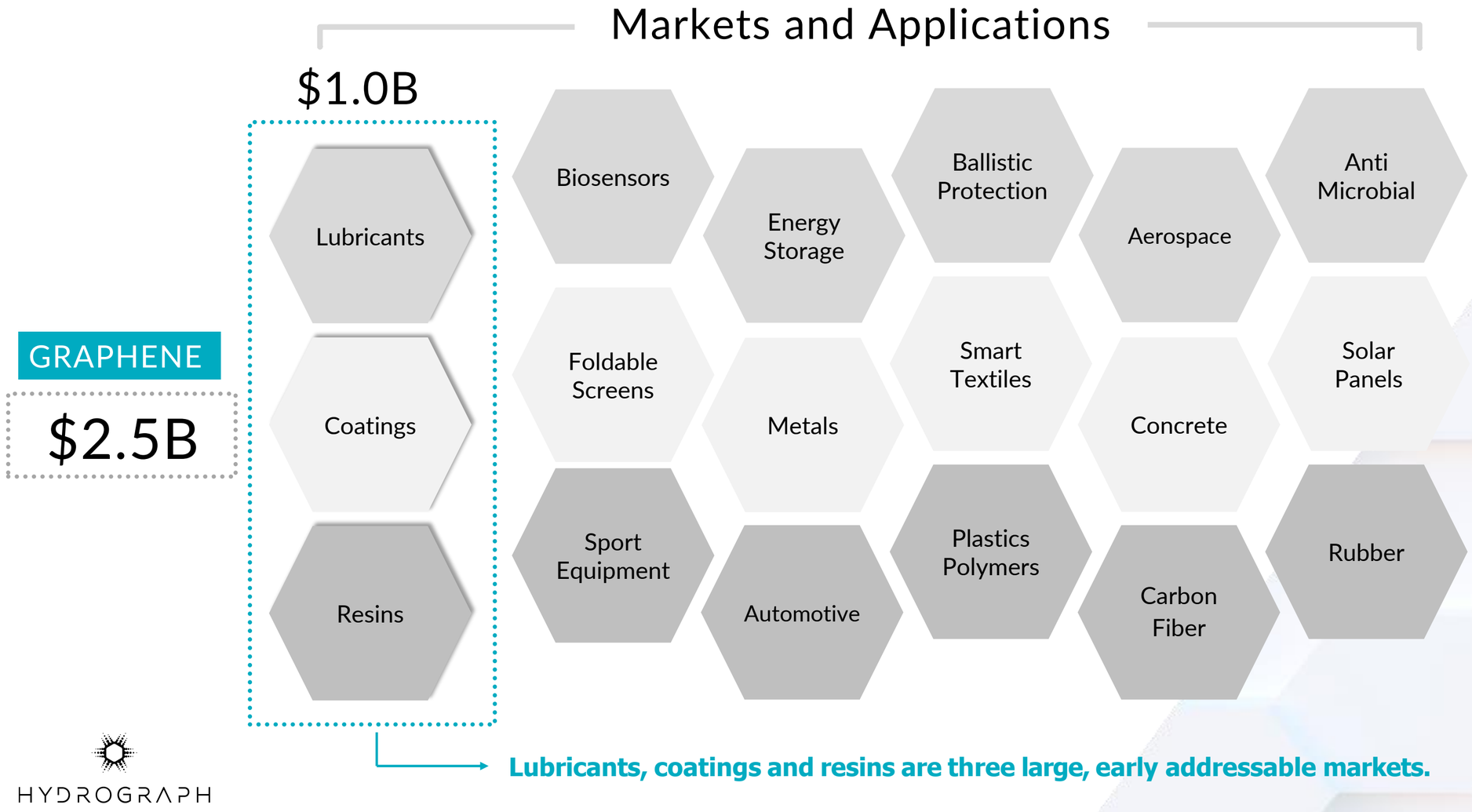
CSE: HG | OTCQB: HGCPF | FRA: M98

The HydroGraph Graphene Revolution

HydroGraph's disruptive patented technology uniquely positions the company for multiple high growth markets in the production of graphene, and other strategic materials **igniting a less carbon intensive world**

The Market Opportunity

Stronger than steel, more conductive than copper, yet thinner than paper – graphene is the material of the future made available today



HydroGraph's Hyperion process produces the purest (99.8%) graphene, and the company's "reactive graphene" product has a reactive shell that allows it to chemically combine with other materials

This flexibility makes it the best graphene solution for countless applications.

Lubricants, coatings and resins are three large, early addressable markets.

HYDROGRAPH

Source: https://www.digitaltrends.com/cool-tech/what-is-graphene/

Future Market Opportunities & Partnerships

Graphene demand is ready for commercial scale

- Lubricants
- Coatings
- Resins

Primary Target Markets

$1.0B

Estimated HydroGraph Priority Market Size By 2028

Capturing priority markets:

- Testing ongoing
- End user highly values enhanced material properties; high price elasticity
- Leverage internal resources from R&D, to application development to business development
  - Drive customer adaptation of HydroGraph's graphene
- Work closely with customers to optimize graphene integration in customers' material

Secondary Market Opportunity

$1.5B

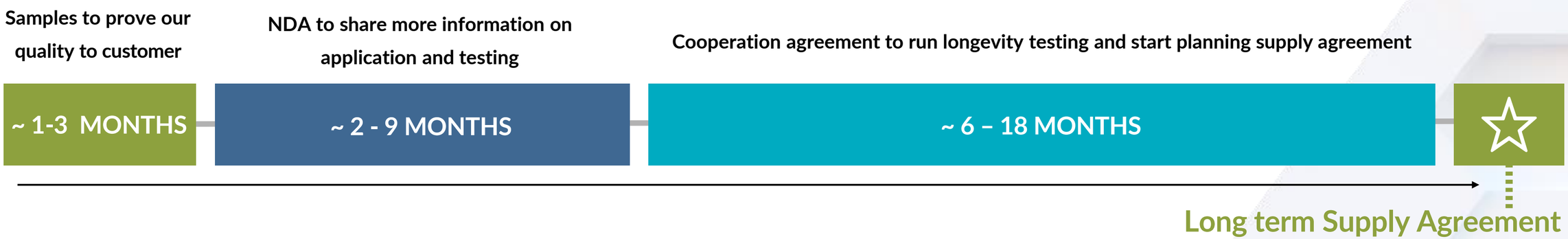
Future Secondary Market Size by 2028

Pursue secondary markets partners with existing market competencies:

- R&D
- Application development
- Channel to market

Customer Acquisition Process and Current Status

33 customers with NDA and/or testing graphene



Customer Acquisition Status

As of October 2023

50+
Material Customer Engagements

23
Expanding NDAs / Testing Agreement

20+
Different Applications Discussed

Testing Stage

20 Customers testing HydroGraph's graphene in products

6 Customers in initial stage of testing graphene for quality and consistency prior testing in end user products

Global Quality Problem: Not All Graphene Is The Same

While many companies are developing graphene production methods, the truth is that not all graphene is the same quality

300 companies worldwide claim to produce graphene

An analysis of 60 companies by Advanced Materials magazine found:

OTHER PRODUCERS

- There is **almost no high-quality graphene** in the market as defined by ISO
- **No company** produces over **50% graphene** content, with a majority producing less than 10%
- Most companies are producing **fine graphite**, not graphene

Compared to HydroGraph

HYDROGRAPH

- HydroGraph makes identical batches of **pristine graphene** at industrial scale
- HydroGraph produces **99.8% pure carbon content graphene**
- HydroGraph's graphene has been **tested as pure** by 5 labs and verified by the Graphene Council

https://www.thegraphenecouncil.org/page/Registry

First In Americas for Certification

VERIFIED GRAPHENE® PRODUCER
THE GRAPHENE COUNCIL

The Verified Graphene Producer ® Certification

- The highest standard in the industry!
- The only credential with independent 3rd party in-person inspections of graphene production facilities
- Verification of production methods and volumes, and quality control processes
- Based on the Graphene Classification Framework (GCF).

HydroGraph is currently the third company to be certified globally and the only company in the Americas to be certified.

The HydroGraph Graphene Solution

Solving graphene's industrial problems

Market Challenges	HydroGraph Solutions
Large Quality Irregularities Current processes produce graphene That is primarily graphite, not pure graphene	**High Quality** The purest (99.8%) graphene at Commercial Scale
Energy Inefficient Many methods require a high level of energy to produce graphene	**Energy Efficient** High-yield, graphene produced with minimal energy, no solvents, no emissions.
High Cost of Production Prohibitively expensive to produce with mined graphite for scale	**Cost Effective** Our proprietary technology uses readily available gases to produce high quality graphene with lowest Capex requirement in the industry.
Not environmentally friendly Many conventional methods use graphite mining, which is not environmentally	**Environmentally Friendly** The Hyperion System uses very little energy, no solvents, and produces no green house gas emissions

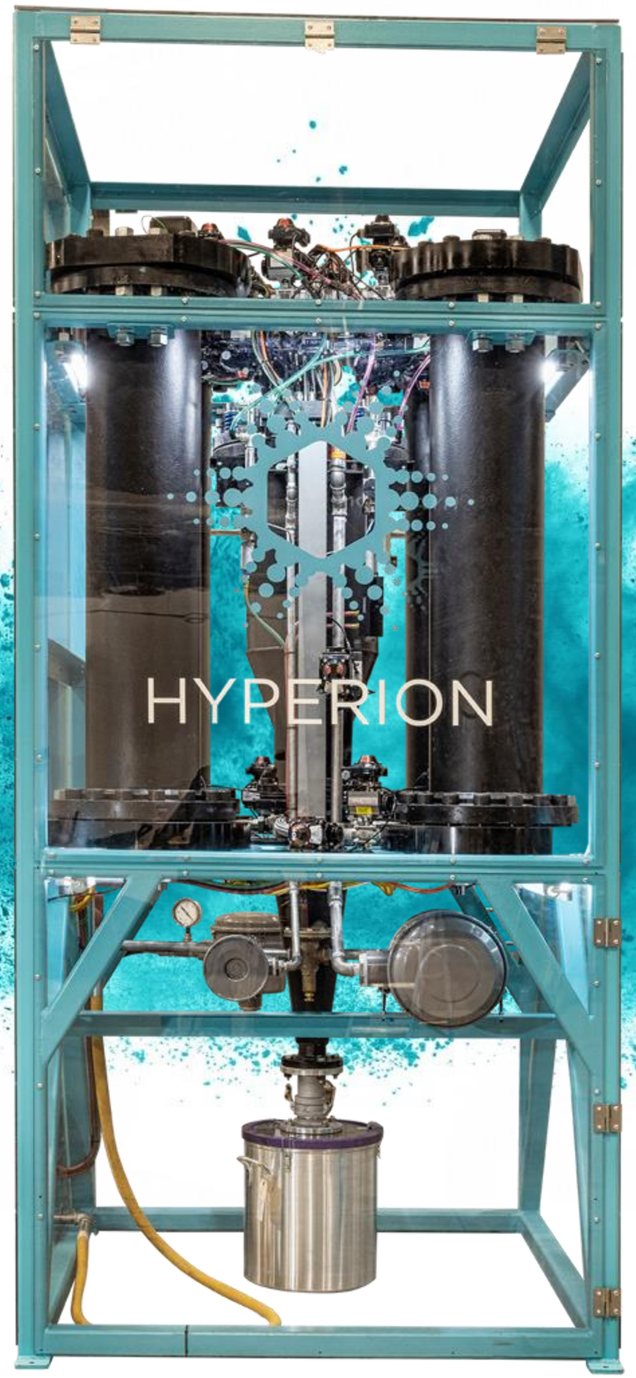
HydroGraph's Hyperion System

Significant Competitor Advantage In High Purity Segment

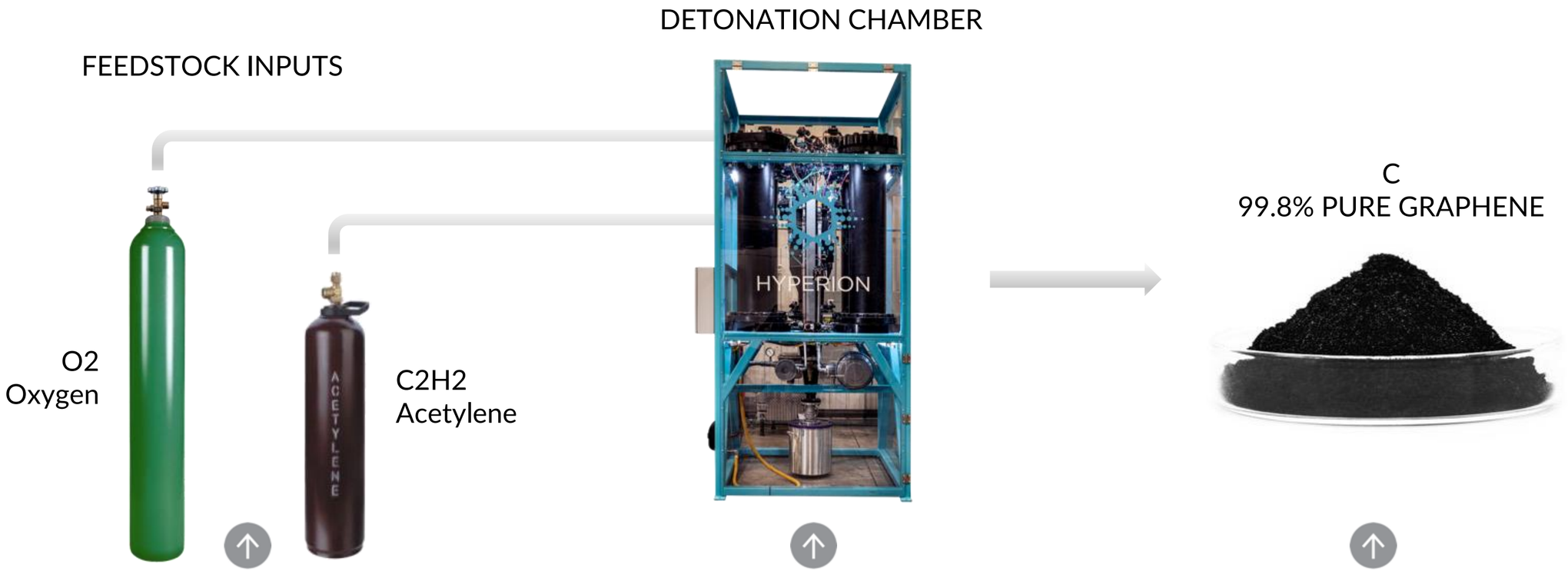
	Low Energy Consumption	+99% Purity	High Consistency	Low Cost	Easily Scalable & Modularity	Chemically Tailorable	Nano Size Particles	< 10 layers
Hydrograph	●	●	●	●	●	●	●	●
Chemical Exfoliation	◔	◔	◑	◔	◑	◑	◔	●
Microwave Plasma	◑	◕	◔	◔	◔	◕	◑	●
Sonication	◔	◑	◑	◑	◕	◔	◔	◑
CVD	◑	●	●	◔	◑	◔	NA	●
Legend	● = Exemplary		◕ = Good		◑ = Adequate		◔ = Poor	

The HydroGraph's Hyperion System

Solves industrial graphene supply problems of value, quality and scale, in nano-material production



HydroGraph's Hyperion System - Disruptive, Patented and Reliable



Readily Available Feedstock

EXTENSIVE APPLICATIONS

HydroGraph's **Hyperion System will change the landscape of nanotechnology**, beginning with graphene and followed by an array of other valuable materials.

Detonation Chamber

PATENTED HYPERION PROCESS

Conserves energy and **prevents emissions.** Ideal for commercial deployment: **modular, scalable, customizable, decentralized,** and **eco-friendly**.

Graphene

HIGHEST QUALITY MATERIALS

We produce the **highest-quality, purest, blackest, most easily integrated** graphene on the market. The same high-quality standards will apply to all other materials produced by HydroGraph.

> Hyperion detonation is exothermic, not endothermic, meaning it pulls minute energy nor burns fossil fuels to convert hydrocarbon to graphene.

Patent #9,440,857

FRACTAL GRAPHENE

Patent for the high-yield production of graphene via detonation

Market Problem

Graphene has been recognized as the first Super Material of the 21st century. However, commercialization of graphene was not feasible before now.

Conventional methods for producing graphene were:

- Producing inferior and inconsistent graphene, sometimes graphite
- Very expensive
- Not scalable
- Inconvenient
- Involved toxic chemicals
- Uses vast amounts of electricity
- Addressable markets include
  - Lubricants
  - Energy storage
  - Resins
  - Specialty chemicals
  - Coatings

HydroGraph Patented Solution

Until now. HydroGraph's proprietary detonation technology – Hyperion System– produces turbostratic graphene that is:

- 99.8% pure
- 2-to-7 layers thick
- Identical from batch to batch
- High value
- Uses very little energy
- Green – using acetylene & oxygen as feedstock with net zero emissions
- Scalable
- Modular design that can be deployed virtually anywhere

"The Hyperion method to create graphene is an example of an elegant synthesis. Fill a chamber with acetylene and oxygen, ignite the mixture with a small spark, and voila, high purity graphene is formed."

– Dr. Chris Sorensen, the creator of the Hyperion process

Patent Filed

REACTIVE GRAPHENE

Graphene/Graphene Oxide Core/Shell Particulates and Methods of Making and Using the Same

Market Problem

Certain high valued applications requires additional functionalization to:

- Enhance bonding and integrating graphene with other materials
- Bring attractive properties, such as tensile strength, elasticity, and conductivity to more complex materials
- Address applications in a vast number of areas, including:
  - Medicine and biology
  - Resins and composites
  - Dispersions
  - Functional coatings
  - Plastics

HydroGraph Patented Solution

HydroGraph has responded by producing Reactive Graphene, which can bond more easily to other materials thanks to its reactive shell, which is functionalized with carboxylic acid groups.

- HydgroGraph leaves the graphene inner core intact, a huge advantage compared to standard graphene oxide which is only 70% carbon content vs HydroGraph's 96%.
- HydroGraph's reactive graphene is a 'pristine functionalized graphene'
- Due to the success of the material, HydroGraph has extended the product line to include a host of other functionalizations.

"We can tailor this graphene to virtually any application; just name it. We can perform the entire palette of organic chemistry reactions on the graphene's surface and keep it intact. The future is extremely bright with regard to us integrating graphene into just about any material you can imagine"

– Dr. Stefan Bossman, HydroGraph's lead chemist

Patented Technology

Fractal Graphene
Patented No: 9,440, 857 B2

The 2016 patent for the high-yield production of fractal graphene via detonation is the founding technology for HydroGraph. The detonation closed system produces the highest quality products, while conserving energy, preventing emissions, and is modular and scalable for clients. Additionally, the HydroGraph portfolio now contains patents relating to the production of nanomaterials, applications involving nanomaterials and clean energy.

REACTIVE GRAPHENE

Disc. No.: 2019-064; Attorney Docket No.: 52468

Title: "Graphene/Graphene Oxide Core/Shell Particulates and Methods of Making and Using the Same"

PCT Application No.: PCT/US2020/038055

Filing Date: June 17, 2020

GRAPHENE INK

RE: Disc. No. 2019-066

Title: "Nano-inks of Carbon Nanomaterials for Printing and Coating"

PCT Patent Application No.: PCT/US2020/039547

Filing Date: June 25, 2020

GRAPHENE ENHANCED CARBON FIBER

Disc. No.: 2017-008; Docket No.: 49240-US

Title: "Additive Manufacturing of Continuous Fiber Thermoplastic Composites"

U.S. Application No.: 16/487,622 (PCT/US2018/018800)

HYDROGEN PRODUCTION

Disc. No.: 2021-027; Attorney Docket No.: 54713-PCT

Title: "Process for Synthesis of Syngas Component"

U.S. Provisional Patent Application No.: 63/161,625

Filing Date: March 16, 2021

Why Invest

1 | TECHNOLOGY ADVANTAGE

Hyperion detonation technology is a patented, simple, scalable platform for the production of graphene products.

2 | PRODUCT ADVANTAGE

Highest purity, cost-effective graphene (99.8%), nano-engineered for the client. Enables integration of graphene into existing products.

3 | COMMERCIAL ADVANTAGE

Hyperion system is compact and modular; the small footprint allows for deployment virtually anywhere.

4 | ENVIRONMENTAL ADVANTAGE

High-yield, industrial graphene produced with minimal energy, no solvents, with virtually no emissions. Unique in the industry.

5 | GLOBAL MARKET ADVANTAGE

Positive market reaction to quality, consistency and purity with multiple applications including lubricants, resins, composites, polymers, coatings, batteries, concrete, aerospace, automotive, biomedical

6 | ADDITIONAL BREAKTROUGH PRODUCTS

Proven ability to use patented detonation technology to potentially:

- Produce hydrogen, a clean green fuel
- Convert methane, a harmful greenhouse gas, into high value graphene

Key Catalysts

- Open new application and technology center in Q4 2024
- Close first major multiyear contract in 2024 and reaching $25M worth of annual customer contracts in 2025

Capital Structure

Basic shares outstanding	174.8M
Options outstanding	16.8M
Warrants outstanding	61.6M
Fully diluted	253.2M
Market cap. (09/20/2023)	CA$14.9m

THANK YOU

We appreciate your interest in HydroGraph and thank you for taking the time to review our presentation.

If you have questions, please feel free to reach out to us. You can access the contact page on our website at hydrograph.com, or through the QR code to the right. Contact information for our top executives is also provided through QR codes for your convenience.

Website

Stuart Jara, CEO
stuart.jara@hydrograph.com

Kjirstin Breure, President
kjirstin.breure@hydrograph.com

Bob Wowk, CFO
bob.wowk@hydrograph.com

HYDROGRAPH