Strong progress with market leading graphene nanoplatelet dispersion and application technology

OTC Conference

December 3 2020
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This presentation contains forward-looking statements with respect to AGM’s plans and objectives regarding its financial conditions, results of operations and businesses.
Graphene Nanoplatelet materials technology

Transformational materials potential using graphene nanoplatelet dispersions in real applications

“Making materials even better”
Unlocking the Potential of Graphene nanoplatelet materials technology

**Investment Summary**

**Commercializing world-leading graphene dispersion technology** – dispersing graphene nanoplatelets (GNPs) **effectively and safely** in liquids primarily for coatings, composites and high-performance additive applications

**Addressing a $38.7Bn coatings resin market** expected to grow to $48.8Bn by 2025, and the global paints and coatings market expected to reach $220Bn by 2027

**Patent-protected, patent pending, know-how and trade secret** IP for both manufacture of high-quality synthetic GNP s plus dispersion and application technology – **key for nanomaterials deployment in structural and performance applications**

**Long-term customer collaborations** resulting in increased product launches and sales momentum throughout 2020

**Active technology and product development with 109 industrial and academic partners**

**Customer products launched to market increased substantially** over past year; continued opportunities to develop coatings, composites, inks, printing and adjacent technologies

**Decade of innovation with more than £20m invested in company**

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**Commercializing world-leading graphene dispersion technology** – dispersing graphene nanoplatelets (GNPs) **effectively and safely** in liquids primarily for coatings, composites and high-performance additive applications
AGM’s Differentiated Manufacturing Process: Synthetic Graphene nanoplatelets

AGM was built on synthetic GNP manufacturing. The pillar that underpins commercialization is our **patent-protected & pending** dispersion technology and applications know-how and trade secrets.

- Graphene can be produced by molecular growth from small molecular carbon precursors
- Number of layers can be controlled
- Can achieve large surface area and high C content
- Great route for consistent batch to batch high quality Graphene nanoplatelet materials

**Synthetic Graphene nanoplatelet production**

- Patented bottom-up process for efficient manufacturing
  - Unique process technology for graphene nanoplatelets
  - Solid IP and manufacturing know-how

**The real value** is the ability to realize the potential of GNPs. AGM’s application technology and know-how are the true differentiators.
The Background

- AGM - Built on graphene in nanoplatelet form
  - We make our GNP’s
  - As with others, such nano materials are challenging to use
- AGM – USP - Know-how to make GNP’s:
  - Usable in volume
  - Easier to deploy through developed product offering as easy-to-use additives
  - Commercialisable roadmap for real applications
    - Protective & specialty coatings
    - Composites
    - Thermal applications

AGM Application Technology – Potential to Reality

- The commercial value of GNPs lies in the ability to **robustly transfer its intrinsic properties into other materials**,
- Opportunity – customer products which possess specifically enhanced characteristics able to attract higher value or attain greater customer share
- AGM utilizes differentiated application technology to create both standardized and end-use specific customized solutions for a range of applications
Cycle of innovation

2010 – c. 2017
Powder technology

Development of GNP powder range through “bottom up” synthesis process
Scaling of powder

2017 -> Dispersion Technology

Application Technology development.
Clarity on deployment of graphene nanoplatelets in real applications
Strategy for core markets
Development of standard product range

2018 -> Customer product performance transformation

Control
Graphene-Based

Development of broader database on GNP impact on anti-corrosion performance

2019 -> Customer products

Coatings customer products come to market containing AGM GNP Dispersions
Success Study -

Graphene nanoplatelets for improved anti-corrosion aerosol coatings

CHALLENGE

- Improve anti-corrosion performance of sprayable primer for automotive applications
- Maintain processibility
- Ensure safe application for consumer market

SOLUTION THROUGH MATERIALS ENGINEERING

- 300% improvement in corrosion endurance performance
- Ease of manufacture using GNP dispersions
- Sprayable primer coating
- Safe use demonstrated
- Customer products launched into retail sector
- Building commercial traction

Source: AGM test report, JBL
Success Study - INFINITE
Graphene nanoplatelets for lighter, stronger, cost effective composites for space

CHALLENGE
• Linerless composite tanks the holy grail of gas storage for space applications
  • Weight
  • Cost
  • Lead time
  • Performance
• Support NASA programs such as Artemis and Lunar Gateway
• Enable customers in launch vehicles satellite applications with ultra lightweight storage tanks
• Next generation cryogenic pressure tanks a key technology to enable USA to maintain space superiority

SOLUTION THROUGH MATERIALS ENGINEERING
• Liner removed through a combination of materials engineering with GNP's, manufacturing process design and assembly design.
• AGM GNP custom dispersions integrated into linerless composite matrix of pressurized tanks
  • Mass reduced 40%
  • Cost reduced 50%
  • Lead time reduced 80%
  • Enables tanks to be taken to higher pressures. 5000psi gas storage capable
  • Simulated 20 years life – composite gets stronger over the pressure cycles with GNP addition
  • Potential for Space, Aviation, Transportation and Industrial

Source: https://youtu.be/ZiBDyt76PUg
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Dispersion

Use Cases & Early Deployment

Unique offering - AGM’s Genable® standard graphene-based dispersions sold through distribution partners

AGM Customer Product and Technology Launches

AGM Dispersions

Standard Dispersions:

Customized Dispersions:

• 30+ parent materials into which AGM is currently developing production-ready graphene dispersions for existing and new customer base.
• In the last 2 years, AGM has developed over 200 customized dispersions for customer development trials.
What GNPs could do?

Where we see potential of AGM nanoplatelet dispersions

- Anti-corrosion, erosion, composites in wind turbines
- Satellite – Thermal management and Light-Weighting
- Aerospace performance advantages for composites
- Offshore harsh environment protective coatings
- Enhanced Pipelines coatings
- Infrastructure – chemical resistant floor coatings
- Transportation – vehicle lightweighting and anti-corrosion plus batteries
- Anti-corrosion / Chemical resistance – industrial plant
- Coatings for Textiles
- Battery and Thermal conductivity for Electrification of Vehicles
- Infrastructure – better coatings for roof, cladding, building structure
- Aerospace – Aluminium corrosion protection
- Heat management potential
- Replacement of poor environmental agents
- ESG – Environmental Social Governance

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Market Opportunities

Paints and Coatings Industry

Geographically the market will be led by North America between ’17 and ’22

Expectation $130.97Bn
CAGR 5.2%

Graphene nanoplatelets added to coatings to add or enhance their specific properties such as corrosion resistance, wear resistance and conductivity

Top 40 coatings manufacturers represent $90Bn revenues

Coatings resins market as an overlay

$38.7Bn
CAGR 4.7%

Global Paints and Coatings Market anticipated to reach $220Bn by 2027**

$48.8Bn
CAGR 4.7%

* Source: Coatings World July 2020
Case Study

- Engagement on potential of GNPs as a product enhancer for construction coatings
- Aspirational targets agreed; Testing work and formulation carried out at AGM using extensive facilities
- Results exceed expectations for anti-corrosion performance for infrastructure applications; Warranty extension increased by Alltimes from 20 to 30 years
- Blocksil materials approved for use by Avanti and RTE for communications network refurbishment
- Alltimes CPD proving valuable for specifier approvals
- Revenue bearing applications expected to start with coronavirus lockdown easing
- Partnership engaged for further product development
## Dispersion

### Commercial Pipeline

<table>
<thead>
<tr>
<th>Stage of Development</th>
<th>Short</th>
<th>Medium</th>
<th>Long</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement on scope of sampling and engagement</td>
<td>7 (+3)</td>
<td>11 (+3)</td>
<td>1 (+1)</td>
<td>19 (+7)</td>
</tr>
<tr>
<td>Initial testing and interpretation of results</td>
<td>18 (+6)</td>
<td>24 (-3)</td>
<td>15 (+9)</td>
<td>57 (+12)</td>
</tr>
<tr>
<td>Repeat testing for consistency and review of results</td>
<td>8 (+1)</td>
<td>9 (+3)</td>
<td>1 (0)</td>
<td>18 (+4)</td>
</tr>
<tr>
<td>Final product trials formulation and specification</td>
<td>4 (-1)</td>
<td>7 (-1)</td>
<td>1 (+1)</td>
<td>12 (-1)</td>
</tr>
<tr>
<td>Final commercial engagement</td>
<td>2 (-4)</td>
<td>1 (-1)</td>
<td>0 (0)</td>
<td>3 (-5)</td>
</tr>
<tr>
<td>Total at 31 July 2020</td>
<td><strong>39 (+5)</strong></td>
<td><strong>52 (+1)</strong></td>
<td><strong>18 (+11)</strong></td>
<td><strong>109 (+17)</strong></td>
</tr>
</tbody>
</table>

**9** Customer projects completed since 31 January 2020 and transitioned from pipeline

Aerospace corrosion, Industrial protective coatings, Aerospace and mass transit composites

Aerospace thermal adhesives, Car care paint protection project

Pipeline of activity evaluating materials for performance and commercial benefits

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Sales Team and Geographical Expansion

AGM has 60+ salespeople focused on selling our products worldwide

Building on a platform of product maturity and demonstrable performance advantages, AGM continues to sign new distributors in key geographies – Maroon LLC (USA), Arpadis Benelux NV (Belgium), and Will & Co and established agreements with – Inabata (Japan), CAME (Italy), Carst and Walker (South Africa) and Dichem (Greece).

- North America coatings market.
- Strengthens AGM’s presence in the United States and Canada
- Maroon Group has decades of experience and leading expertise in additive sales and customer service
- Well placed to grow sales at this early stage of the graphene market development
- Exclusive agreement

- Strengthens supply position across the United Kingdom, Germany, Spain, France, Portugal and Scandinavia
- Exclusive agreement in all regions apart from the United Kingdom
- Work in parallel with AGM’s UK sales team to further strengthen existing relationships and develop the sales pipeline

- Supply position across The Netherlands, Belgium, and Luxembourg
- Exclusive agreement
Current Highlights

**Commercial progress** - a number of major customer projects advancing towards completion and product launch

**Conduit to Market** - Major expansion of sales network with global distribution partners:
- Maroon Chemicals Group – The USA and Canada
- Arpadis – UK, Germany, France, Spain, Portugal and Scandinavia
- Will & Co – Benelux
- Dichem – Greece
- Gobarr - Turkey

**IP Portfolio** - Continues to grow with progress of several graphene dispersion technology based patents

**Product Range** - Genable® 1400 series of dispersions - a cost-effective range of products offering outstanding barrier performance

**Focus** - A realignment of our resources was completed in December 2019; focus on graphene dispersions capacity and capability

**Scaling** - Production scaling for dispersions manufacture

**COVID-19** - Limited impact from on collaborations, and customer pipeline continues to grow
Current Highlights

Financial overview as at Year End 31 July 2020

- Revenue: Pre-Revenue £0.08 million (2019: £0.05 million)
- EBITDA*: Loss of £3.08 million (2019: loss of £4.56 million)
- Cash at bank: £3.68 million (2019: £6.13 million)
- Basic EPS: Loss of 6.4 pence per share (2019: loss of 7.9 pence)
- Adjusted EPS: Loss of 6.1 pence per share (2019: loss of 7.9 pence)

* EBITDA comprises loss before interest, tax, exceptional costs, depreciation and amortisation.

Post year end

- Sustainability review, roadmapping plan and intent to sign up to the UN Global Compact in the near future

Recent customer product launches

- Kent Europe GmbH - launch of aerosol anti-corrosion primer
- Infinity Wax - launch of Graphene QDX detailing polish for the car care market
- Halo Automotive Ltd / EZ Car Care - launch of Graphene Wax - enhanced product for car care market

AGM launched commercial R&D partnership service for customer product development - Innovation Accelerator

AGM shares trading on the OTCQB Venture Market in the United States
Sustainability

COMMIT
Leadership commitment to mainstream the Global Compact principles into strategies and operations and to take action in support of broader UN goals, in a transparent way.

COMMUNICATE
Communicate progress and strategies and engage with stakeholders for continuous improvement.

MEASURE
Measure and monitor impacts and progress toward goals.

IMPLEMENT
Implement strategies and policies through the company and across the company’s value chain.

DEFINE
Define goals, strategies, and policies.

ASSESS
Assess risks, opportunities, and impacts across Global Compact issue areas.

RAW MATERIALS
SUPPLIERS
INBOUND LOGISTICS
COMPANY OPERATIONS
DISTRIBUTION
PRODUCT USE
PRODUCT END LIFE

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Near-Term Drivers

Sales team expansion; substantially increased salesforce over FY20, with a particular focus on the liquid resins market, as a result of the appointment of 4 additional distributors across multiple geographies.

Technology development platform bringing new product iterations to market; continual focus on ability to customize product for different end-users.

Accelerated product development; dispersion innovations available to be commercialized in the next 12 months.

New products already launched with customers validating the coatings technology and product roadmap to market.

Early commercial agreements reaching product sales stage; ability to cross-sell into existing customer base.

Introduction of Innovation Accelerator – opportunity for end-users to fast track their product development using AGM facilities and expertise.

OTCQB listing completed – Access to stock for US investors. Listed on AIM in UK.

Commitment to UN Global Compact – roadmap for end to end engagement and compelling benefits of graphene use.

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Why we will succeed

- Meeting market and customer needs – Application focused
- Commercial and execution expertise - sales and distribution network to accelerate commercial pipeline
- Engaged, agile and responsive
- COVID-19 effect managed well in-house. Working with customers to maximise opportunity
- Strength of technology platform, know-how and IP
- Sustainability initiative advancing
- Well placed to make strong progress in 2021
Further Info

Contact info

www.appliedgraphenematerials.com

Adrian Potts – CEO – 001 (918) 344 8564

Adrian Potts – CEO – adrian.potts@appliedgraphenematerials.com

David Blain – CFO – david.blain@appliedgraphenematerials.com
Appendix
Management Team

DR ADRIAN POTTS  **Chief Executive Officer**

Joined AGM in January 2015, CEO from August 2018

Various senior roles in composites industry including UMECO

Experienced in strategy development, business turn-arounds and integrating new innovation

Based in Tulsa, Oklahoma

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DAVID BLAIN  **Chief Financial Officer**

Joined AGM in October 2018 from Nanoco Group PLC

Substantial experience in PLCs and the nanomaterials industry

Experienced at delivering successful commercialisation of technology startups
Potential of Graphene

Key Properties
- Mechanical: 100X stronger than steel, Stiffer than diamond
- Electrical: 60% greater conductivity than copper
- Thermal: 5X conductivity of Al
- Transparent: Circa. 98% optical transmission
- Impermeable: Vacuum tight to helium gas
- Lubricating: Very low surface shear

Graphene

Brief history
- First isolated in 2004 by researchers at University of Manchester
- Nobel Prize 2010
- Following initial hype cycle, graphene has now reached a commercial reality, resulting in a sharp increase in customer projects and applications
- AGM AIM IPO 2013

AGM Application Technology – Potential to Reality
- The commercial value of graphene lies in the ability to robustly transfer its intrinsic properties into other materials, thus creating higher value materials and products which possess specifically enhanced characteristics
- AGM utilizes differentiated application technology to create both standardized and end-use specific customized solutions for a range of applications
AGM Commercial Focus – success underpinned by AGM’s dispersion and application IP

Commercial value of graphene lies in the ability to robustly transfer its intrinsic properties into other materials, creating higher value materials and products which possess specifically enhanced characteristics.

Graphene: A Performance Enhancer

Graphene has significant anti-corrosion and chemical resistance benefits which makes it useful in a number of end-markets.

- Proven performance advantages open up nearer term commercial opportunities
- To make graphene effective, it needs to be dispersed into the host liquid
- Effectively – so that platelets are well separated to maximize utility
- Safely – key to new materials introduction

How does graphene improve materials performance?

- Chemical resistant coatings are designed to protect a substrate from degradation (chemical corrosion)
- **Graphene** possesses excellent impermeability
- **Graphene** dispersions added to coatings have been shown to substantially improve their corrosion resistance

Dispersion Technology: Key Highlights

AGM’s patented dispersion technology

- Clear understanding of end-use need and how to achieve it
- AGM’s “How-To” data enables easy use of graphene:
  - Impressive technical data to support claims
  - “How-To” knowledge to assist the customer practically
  - Regulatory leadership for safe use of nano-materials

Customized end-to-end solutions

- Graphene is capable of delivering transformational improvements to a variety of materials
- Complex nature means successful integration is dependent upon highly collaborative relationship with customers
- Provide either standard dispersions (general purpose additives across a range of applications) or customized solutions

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## Financials & Operations

### Cash Flow Summary

<table>
<thead>
<tr>
<th></th>
<th>Year ended 31 July 2020</th>
<th>Year ended 31 July 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating activities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net cash used in operations</td>
<td>(3,465)</td>
<td>(4,184)</td>
</tr>
<tr>
<td>Net finance income</td>
<td>41</td>
<td>69</td>
</tr>
<tr>
<td>Tax received</td>
<td>1,316</td>
<td>-</td>
</tr>
<tr>
<td>Net cash used in operating activities</td>
<td>(2,108)</td>
<td>(4,115)</td>
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<tr>
<td><strong>Investing activities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase of intangible assets</td>
<td>(121)</td>
<td>(77)</td>
</tr>
<tr>
<td>Purchase of property, plant and equipment</td>
<td>(221)</td>
<td>(116)</td>
</tr>
<tr>
<td>Net cash used in investing activities</td>
<td>(342)</td>
<td>(193)</td>
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<tr>
<td><strong>Net decrease in net cash and cash deposits</strong></td>
<td>(2,450)</td>
<td>(4,308)</td>
</tr>
<tr>
<td>Year ended 31 July 2020</td>
<td>3,685</td>
<td>6,135</td>
</tr>
<tr>
<td>Year ended 31 July 2019</td>
<td>6,135</td>
<td>10,443</td>
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### Income Statement Summary

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<thead>
<tr>
<th></th>
<th>Year ended 31 July 2020</th>
<th>Year ended 31 July 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue</strong></td>
<td>83</td>
<td>50</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>(215)</td>
<td>(472)</td>
</tr>
<tr>
<td>Other income</td>
<td>(132)</td>
<td>(422)</td>
</tr>
<tr>
<td>Gross loss</td>
<td>(132)</td>
<td>(348)</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>(3,566)</td>
<td>(4,554)</td>
</tr>
<tr>
<td>EBITDA</td>
<td>(3,084)</td>
<td>(4,559)</td>
</tr>
<tr>
<td>Exceptional costs</td>
<td>(166)</td>
<td>-</td>
</tr>
<tr>
<td>Depreciation</td>
<td>(446)</td>
<td>(343)</td>
</tr>
<tr>
<td>Operating loss</td>
<td>(3,698)</td>
<td>(4,902)</td>
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<tr>
<td>Net finance income</td>
<td>33</td>
<td>67</td>
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<tr>
<td><strong>Loss on ordinary activities before tax</strong></td>
<td>(3,665)</td>
<td>(4,835)</td>
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<tr>
<td><strong>Tax on loss on ordinary activities</strong></td>
<td>476</td>
<td>908</td>
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<tr>
<td><strong>Loss for period attributable to equity shareholders</strong></td>
<td>(3,189)</td>
<td>(3,927)</td>
</tr>
</tbody>
</table>

### Impact of COVID-19:

- **Minimal impact on technology development though second half revenue slowed**
- Company cash forecasts already based on very conservative revenue; funded to October 2021
- No impact on personnel count; did not need to downsize or lay any employees off
- Continued to sign new distributors and launch new products throughout 2020; working in accordance with all guidelines as we work to re-launch customers and increase sales
- Continue to work in accordance with government restrictions and guidelines
## Patents granted and pending

<table>
<thead>
<tr>
<th></th>
<th>Number</th>
<th>No. of countries in which granted</th>
<th>Patents pending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total granted</td>
<td>3</td>
<td>15</td>
<td></td>
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<tr>
<td>Pending</td>
<td>9</td>
<td></td>
<td>Various stages throughout various territories</td>
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Major Shareholders

As of 30 October 2020, Applied Graphene Materials had in issue 49,704,292 Ordinary Shares of 2 pence each; No shares are held in treasury.

<table>
<thead>
<tr>
<th>Shareholder</th>
<th>% Holding</th>
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<tbody>
<tr>
<td>IP Group</td>
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<tr>
<td>Hargreaves Lansdown Stockbrokers</td>
<td>12.66</td>
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<tr>
<td>Herald Investment Management</td>
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<td>Eden Tree Investment</td>
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<tr>
<td>Interactive Investor</td>
<td>5.40</td>
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<tr>
<td>HSDL Stockbrokers</td>
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<td>North East Finance</td>
<td>4.16</td>
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<tr>
<td>University of Durham</td>
<td>2.48</td>
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</table>

<table>
<thead>
<tr>
<th>Shareholder - Directors</th>
<th>% Holding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor Karl Coleman</td>
<td>3.58</td>
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<tr>
<td>Dr Bryan Dobson</td>
<td>0.27</td>
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<tr>
<td>Adrian Potts</td>
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<tr>
<td>Sean Christie</td>
<td>0.07</td>
</tr>
<tr>
<td>David Blain</td>
<td>0.07</td>
</tr>
<tr>
<td>Mike Townend</td>
<td>0.05</td>
</tr>
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