



**Investor Presentation
Interim Results
April 2018**



Jon Mabbitt – Chief Executive Officer

- 30+ years' senior management experience in manufacturing and engineering
- MD of Umeco Composite Structural Materials
- MD of Advanced Composite Group
- BEng in Chemical Engineering



Gareth Jones – Chief Financial Officer

- Chartered Accountant with 28 years' experience in finance
- Divisional Finance Director at Gardner Denver
- Finance Director of Vireol plc
- BEng in Mining Engineering

Other Directors

Bryan Dobson – Chairman

- Bryan has over 33 years' experience in the chemical industry with ICI plc and Croda International plc

Karl Coleman – Chief Scientific Officer

- Karl invented AGM's proprietary production process and established the Company in 2010. Head of Chemistry and Durham University

Sean Christie – NED

- Sean was Group Finance Director of Croda International plc

Mike Townend – NED

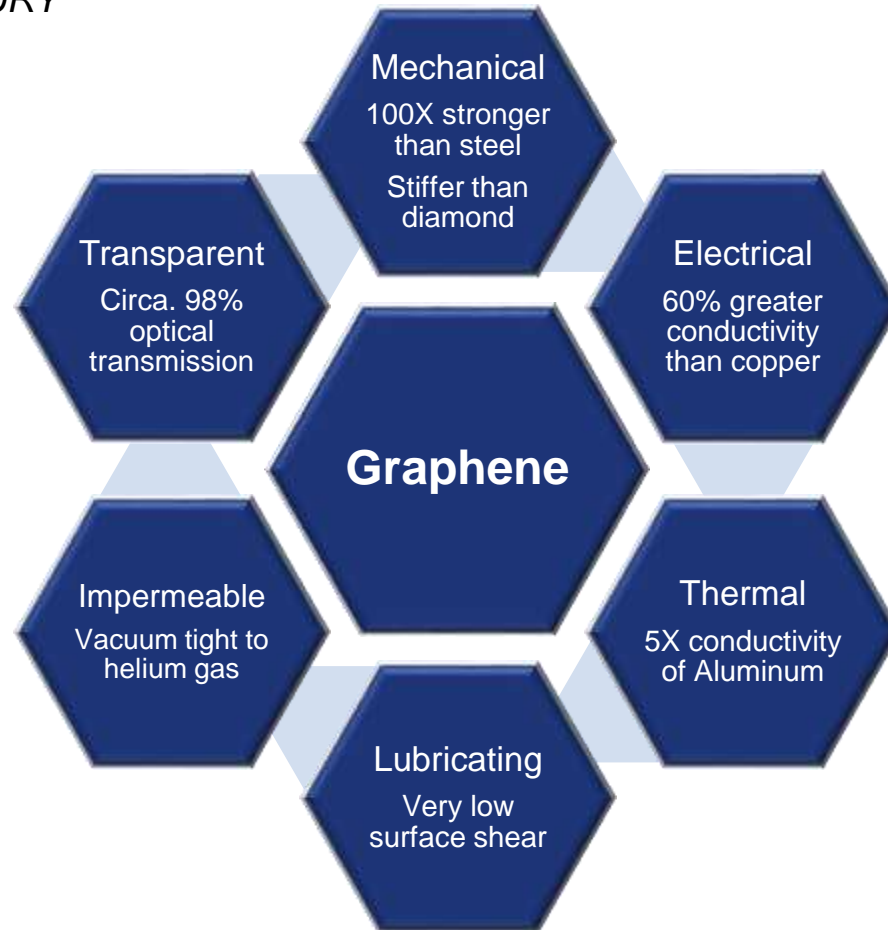
- Mike is Chief Investment Officer of IP Group

Highly experienced team with track record of value creation in specialty materials

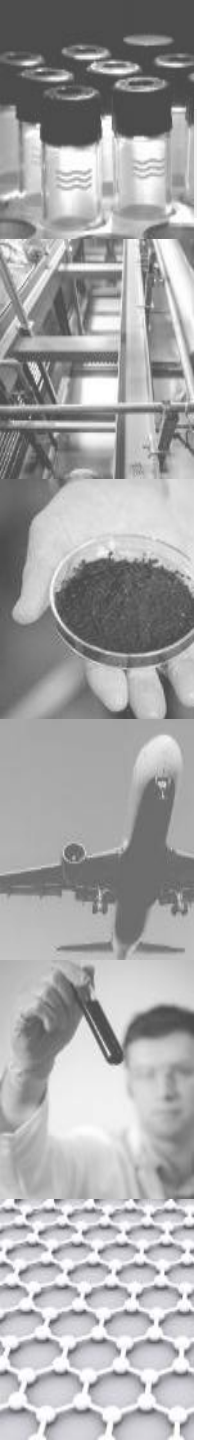


WHY GRAPHENE?

“GRAPHENE HAS THE POTENTIAL TO BE THE MOST DISRUPTIVE MATERIAL OF THE 21ST CENTURY”

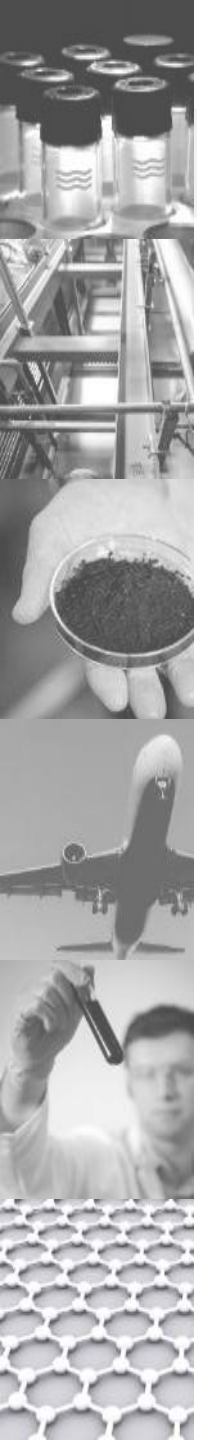


Significant challenges to produce, disperse and format for customers



Significant progress on multiple fronts in recent months

- Several significant coatings opportunities are progressing towards commercial maturity
- Composite opportunities being developed across an array of industries
- Customer recently launched Graphenics® range of oil based products
- Structural Ink® programme making significant progress with notable developments anticipated in 2018
- Genable® product range launched focused on the coatings industry
- Additional patent applications filed with focus on formatting and dispersing
- Placing completed for £9.77m (before expenses)
- Successfully secured two further grant awards with other applications pending
- Search for J Mabbitt replacement at an advanced stage



Market requirements

- Excellent barrier properties
- UV absorption
- Electrical conductivity
- Resistance to scratch and abrasion
- Adhesion to substrate
- Thermal conductivity
- Foul release



£8.1bn

Anti-corrosion coatings opportunity (2013)

Routes to market

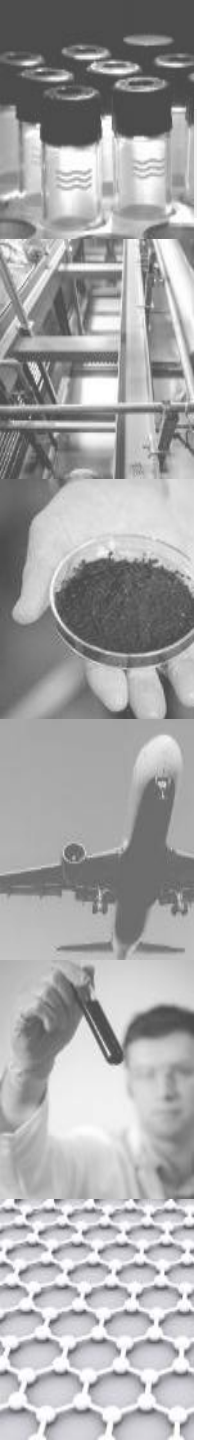
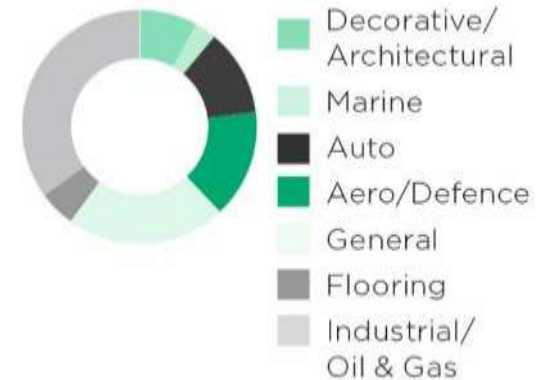
- Coatings market formulators
- Additives manufacturers



COATINGS SECTOR- COMMERCIAL

COMMERCIAL HIGHLIGHTS

- **HMG Paints completed live trials with customer**
 - Customer now intend to acquire graphene product
 - HMG looking at rolling out both primer and top coat to customer base- additional interest from other customers
- **James Briggs at advanced stage of accelerated development programme**
- **Positive trial results from barrier testing resulting in increased engagement with a number of customers**
- **Genable® product range launched specifically for coatings sector**



COATINGS SECTOR- CASE STUDY

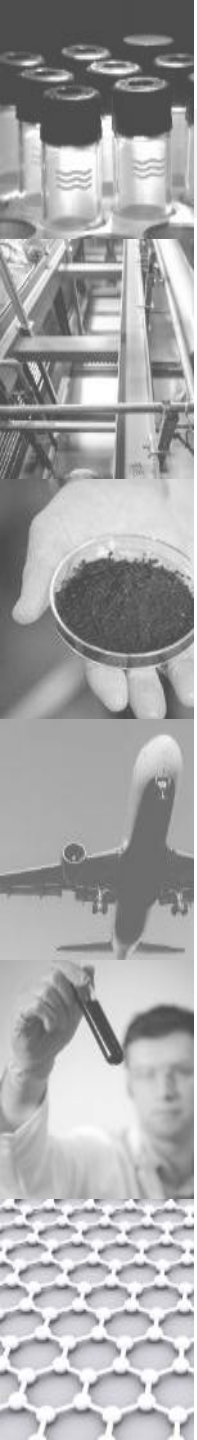
HMG PAINTS

Background

- The largest independent paint producer in the UK
- Products used in a number of hostile environments, including industrial vehicles, automotive and general industrial applications
- Launch customer keen to exploit graphene containing product to improve condition of fleet

Latest developments

- Internal testing complete
- Field trials with customer successfully completed
- Looking to launch production volumes with customer
- Applications for both primer and top coats
- A number of HMG customers are currently in discussions about the graphene enhanced product range



COATINGS SECTOR- TECHNICAL WORK

Control totally fails after around 900 hours in salt spray tests
Graphene plates show very little deterioration even after 3,000 hours

500 hours

900 hours

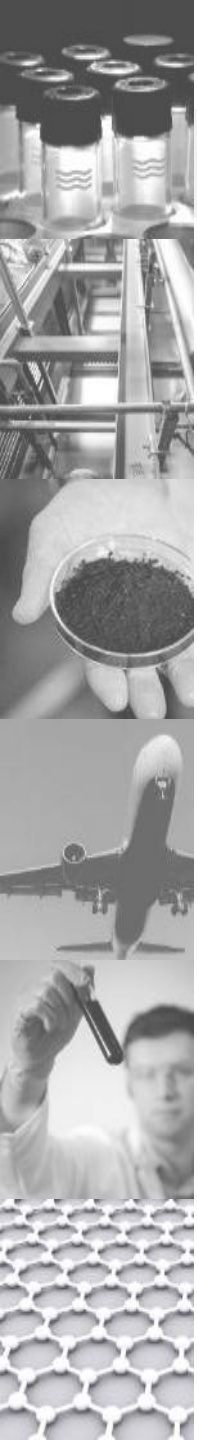
2,000 hours

3,000 hours

Control



Graphene plate



Market requirements

- Improved fracture toughness
- Thermal conductivity
- Electrical conductivity
- Enhanced fatigue performance
- Improved flame, smoke, toxicity and heat release
- Increased moisture and barrier properties
- Low shrinkage

€37bn

Materials opportunity

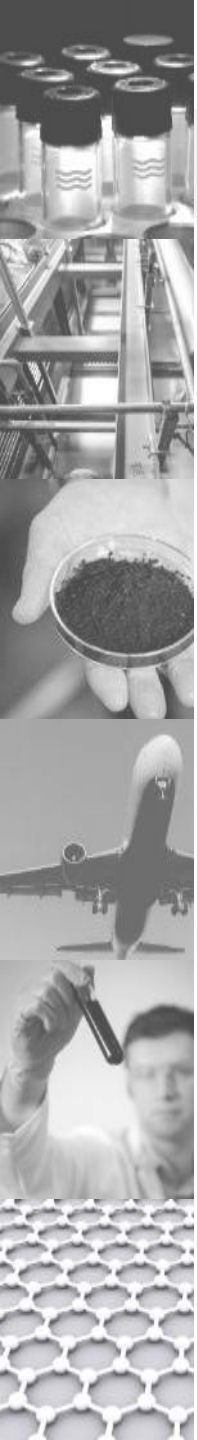
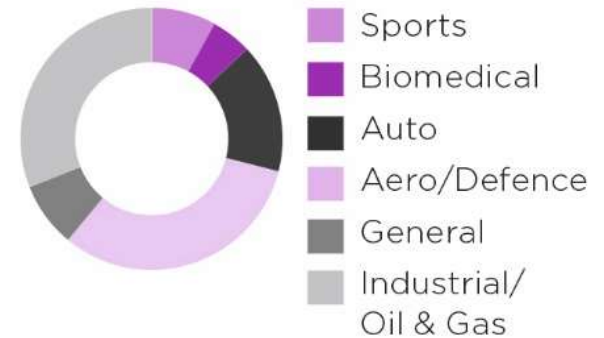
Routes to market

- Formatted materials-pre-impregnated composites
- Infusion systems- bulk resin suppliers
- Adhesive producers
- End users



COMMERCIAL HIGHLIGHTS

- **Magna Exteriors- tier 1 automotive supplier engagement**
 - **Included graphene on Fenyr supercar**
 - **Exploring possibilities of expanding programme to allow greater graphene inclusion**
- **SHD composites gaining greater market penetration in many different sectors**
- **Airbus have extended their programme to include additional applications-launch still targeted for 2018**
- **Significant interest in Structural Ink® – programme moving ahead with increased momentum**
- **Strong levels of interest at recent JEC show in Paris, the premier global composites exhibition- 42,000 attendees at the show**



COMPOSITES SECTOR- CASE STUDY

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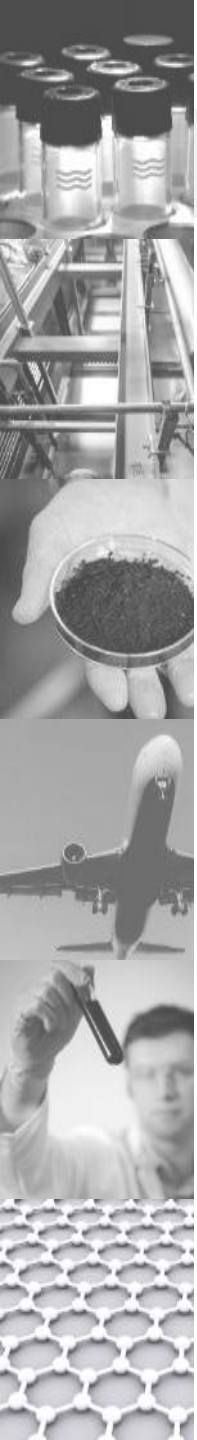
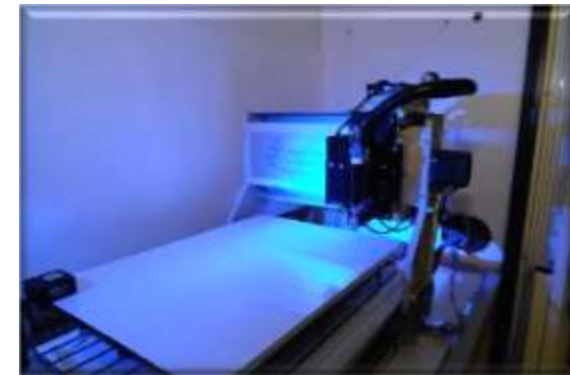
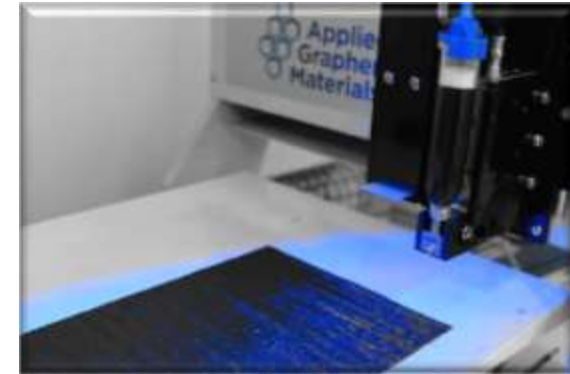
STRUCTURAL INK®

What is it?

- Highly targeted delivery of graphene onto composites
- Combination of two technologies: printing and dispersing graphene
- Accurately applied- greater precision and performance where its properties are required

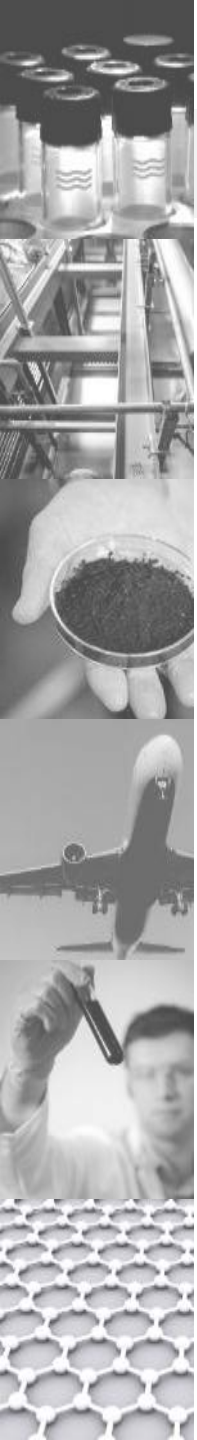
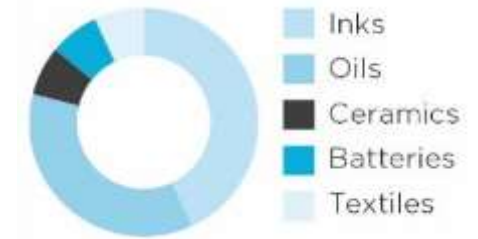
Latest developments

- Patent application filed
- Test equipment acquired
- Testing underway of initial batches
- Successfully demonstrated at JEC- high levels of interest
- Installation of larger scale unit at the Advanced Manufacturing Research Centre (AMRC) during 2018

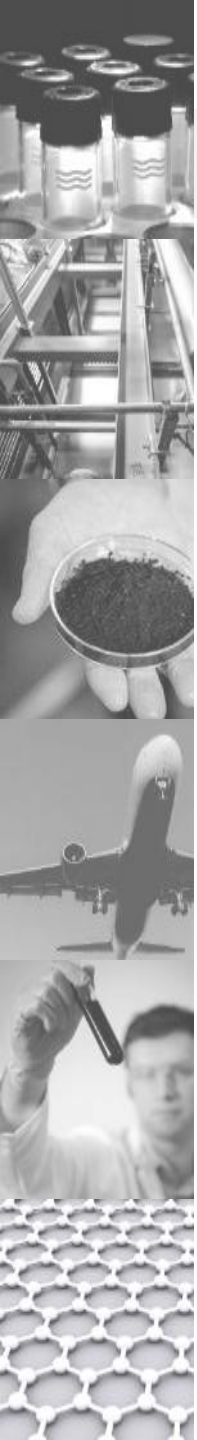
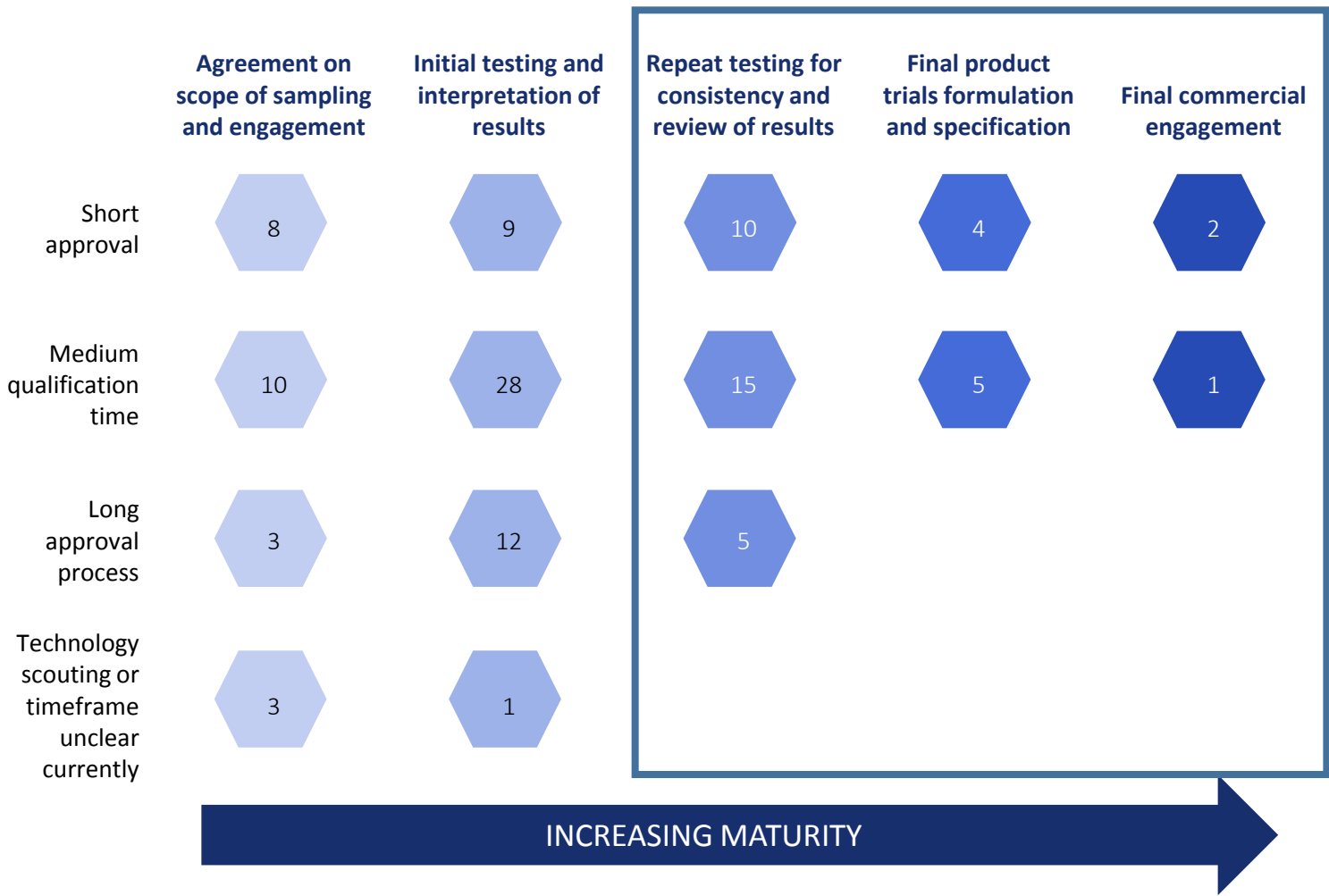


COMMERCIAL HIGHLIGHTS

- **Puraglobe at point of commercialisation:**
 - **Completed extensive testing and performance evaluation**
 - **Launched Graphenics® range at target customers**
- **Down hole field trials being undertaken in oil and gas industry**



OPPORTUNITY PIPELINE MATURITY



PRODUCTION

- New A-GNP line operational
- Structural Ink® scale up work commenced
- Ongoing process engineering initiatives

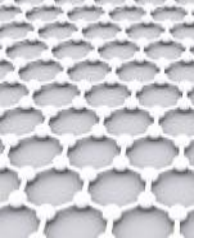
TECHNICAL

- Extended barrier protection work completed
- Additional patent applications filed
- REACH application



FINANCE

- Placing and open offer complete
- Two new grants secured
- Additional significant grant applications submitted with key partners





IP and Know-how

- Patent protection
- Range of graphene
- Formatting knowledge
- Structural Ink®



Operational

- Bottom up process
- Successful scale up
- Modular capacity expansion
- Consistency of product



Commercial

- Extensive databases
- Focus on core markets
- Key partner collaborations
- Increasing number of production orders



Not all graphene is the same



AGM



Increasing graphene awareness

- 2004 discovered
- 2010 Nobel prize awarded
- Extensive press coverage

2014-15

- First patent awarded
- Commercial plant built
- A-GNP 35 introduced



Supported by investment

- EU funding of €1.0bn
- US/Korea/China filed over 5,000 patents
- S Korea circa. US\$200m over 6 years

2016-17

- First commercial order received
- Repeat orders received
- Over 100 evaluation samples issued
- Airbus successfully test graphene product



Developing market opportunity

- Head launch graphene tennis racquet in 2013
- 2014 Head Skis launched
- 2017 graphene clothing launched

2017-18
and
onwards

- HMG complete live trials
- Engagement with Magna organisation
- Progress on Structural Ink®
- Anticipated additional orders of increasing magnitude
- Airbus production anticipated in 2018
- Group on path to break even

Increasing momentum towards commercial success

A grayscale photograph of an industrial facility, likely a refinery or chemical plant. The image shows a complex network of pipes, valves, and large cylindrical tanks. The lighting is dramatic, with strong highlights and deep shadows, creating a sense of depth and scale. The overall tone is technical and industrial.

FINANCIALS

INCOME STATEMENT SUMMARY

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- Revenues for H1 in line with prior year, with notable orders from Airbus.
- Other income relates to grants received primarily for the development of graphene applications. Down year on year but potential to exceed PY
- Operating expenses in line with PY when exceptionals are excluded
- Exceptional costs relate primarily to fund raising
- Depreciation up year on year as production capacity comes on stream.

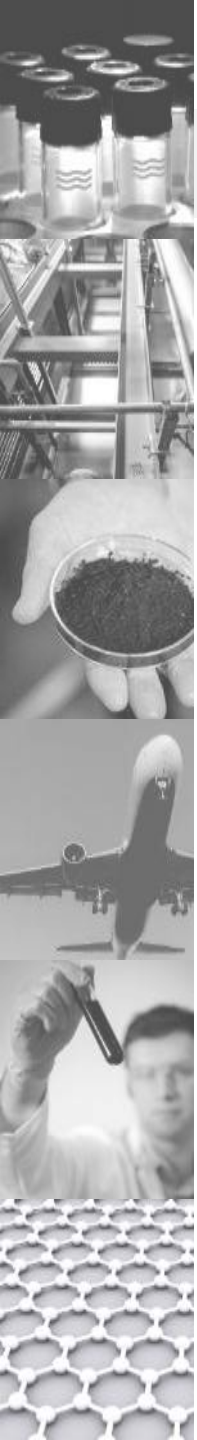
	Interims	Interims	FY
	2018	2017	2017
	£'000	£'000	£'000
Revenue	54	53	97
Other income	30	115	168
	84	168	265
Cost of sales	(120)	(189)	(385)
Gross loss	(36)	(21)	(120)
Operating expenses	(2,275)	(2,054)	(4,190)
EBITDA	(1,952)	(1,957)	(4,059)
Exceptional costs	(205)	—	—
Depreciation	(154)	(118)	(251)
Operating loss	(2,311)	(2,075)	(4,310)
Net finance income	20	22	33
Loss before tax	(2,291)	(2,053)	(4,277)
Tax on loss	—	—	1,234
Loss for the period	(2,291)	(2,053)	(3,043)
Diluted EPS (pence)	(6.4)	(9.3)	(13.8)
Adjusted diluted EPS (pence)	(6.4)	(9.3)	(13.8)

CASH FLOW SUMMARY

- Net cash of £12.0m on deposit with maturity of less than one year
- Capital expenditure down year on year following completion of new A-GNP 35 facility
- Gross proceeds from placing and open offer £9.7m
- Cash from R&D tax credits anticipated in H2
- Interest likely to increase in H2 following receipt of funds

	Interims	Interims	FY
	2018	2017	2017
	£'000	£'000	£'000
Operating Loss	(2,311)	(2,075)	(4,310)
Depreciation	154	118	251
IFRS 2 Share based payments	138	78	192
Net working capital movement	21	(161)	(95)
Cash used in operations	(1,998)	(2,040)	(3,962)
Interest received	15	19	52
Tax received	—	—	1,234
Capital expenditure	(133)	(272)	(725)
Free Cash Flow	(2,116)	(2,293)	(3,401)
Proceeds from issue of shares	9,369	145	407
Opening cash at bank	4,708	7,702	7,702
Cash at bank	11,961	5,554	4,708

- **Notable commercial progress in the coatings sector with a number of exciting opportunities getting very close to production order stage**
- **Increased momentum in the composite sector in a multitude of applications and industries.**
- **A number of milestones within the technical and operational teams, including:**
 - **Breakthrough in barrier protection;**
 - **Launch of *Genable*® range;**
 - **Filing application patents; and**
 - **Commissioning of new production line.**
- **Focus remains on targeting additional and larger production orders during 2018.**
- **AGM remains confident that its adopted strategy will enable it to become the UK's leading producer of graphene.**



APPENDIX

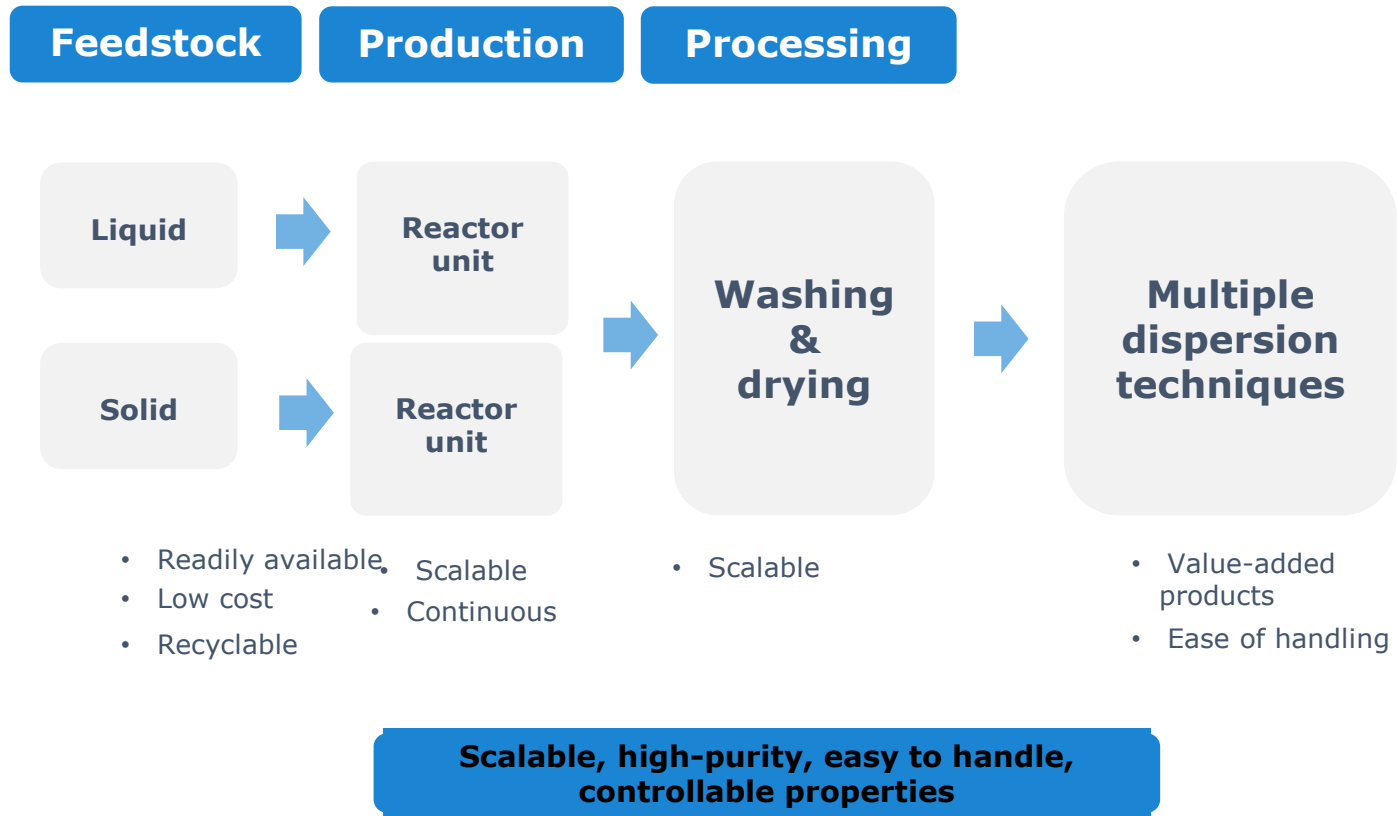


SHAREHOLDER STRUCTURE

Significant shareholders	%	%
Directors		4.3%
IP Group	19.1	
Insight	11.4	
Herald Investment	10.0	
Ruffer	9.0	
Eden Tree	7.6	
Hargreaves Lansdown, Stockbrokers (EO)	6.2	
Baillie Gifford	4.8	
City Financial	2.8	
Interactive Investor	2.7	
		73.6%
Other		22.1%

AGM PRODUCTION PROCESSES

Unique, proprietary bottom-up processes



	DESCRIPTION	ADVANTAGES	DISADVANTAGES
Top-down	Reduced graphene oxide	<ul style="list-style-type: none"> Established process 	<ul style="list-style-type: none"> Graphite supply chain – concentrated in China Batch process Residual graphite Incomplete reduction
	Liquid phase exfoliation	<ul style="list-style-type: none"> Can be low temperature 	<ul style="list-style-type: none"> Graphite supply chain – concentrated in China Batch process Residual graphite Toxic solvents
	Chemical vapour deposition	<ul style="list-style-type: none"> Able to produce large films with roll-to-roll approach High purity with good electrical properties 	<ul style="list-style-type: none"> Expensive due to need to recover/remove metal substrate High operating temperature Low volume of material
Bottom-up	<ul style="list-style-type: none"> Deposition of graphene films onto metal substrates Film removed from metal substrate Produces films rather than nanoplatelets Different end markets to AGM 		



THANK YOU

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