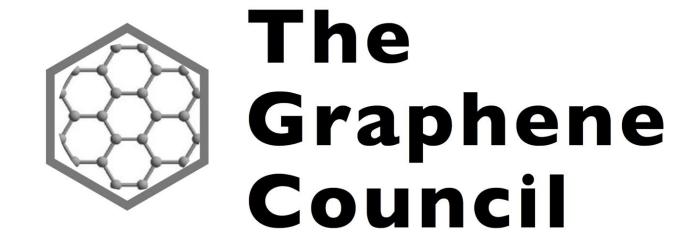
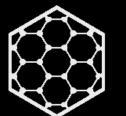


Advanced Materials Value Chain





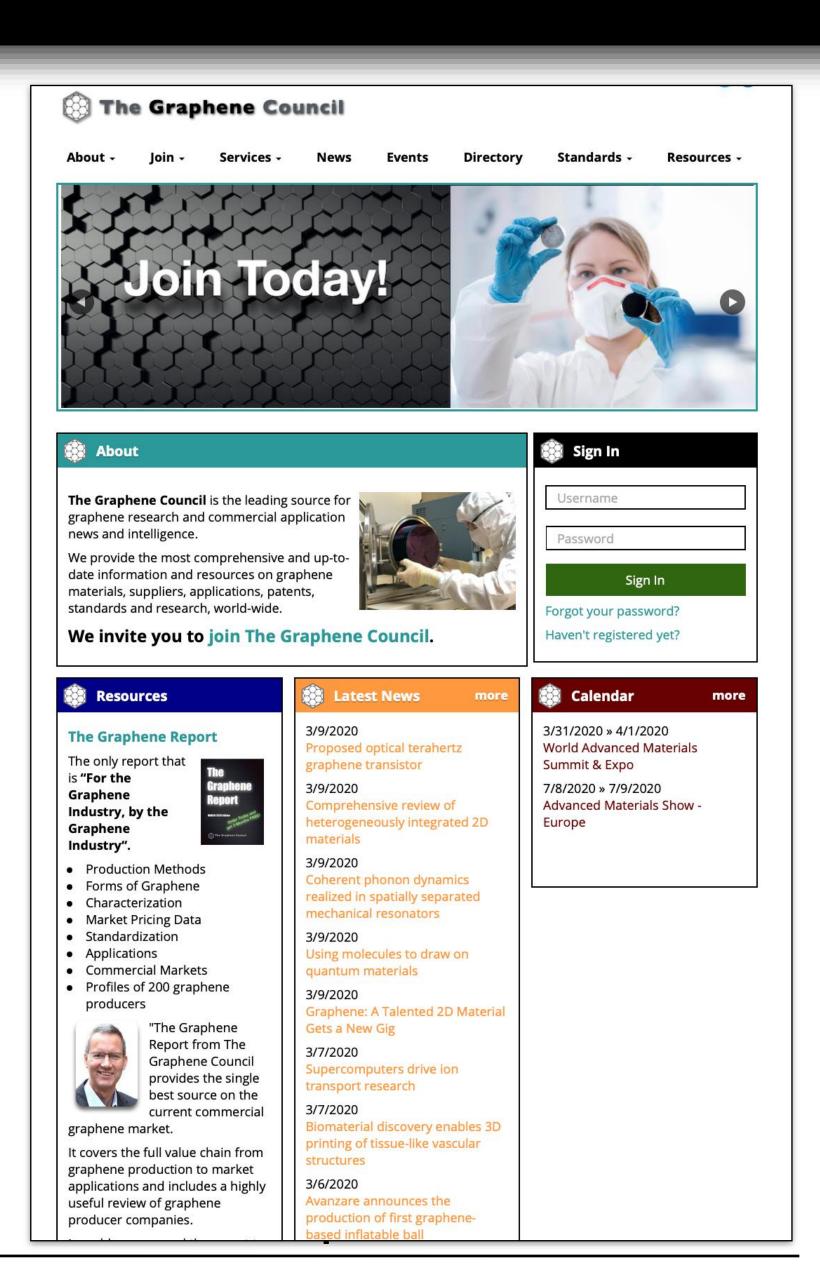




About The Graphene Council

- Founded in 2013 as a global Trade and Professional body.
- The largest community in the world for graphene researchers, developers, producers and other stakeholders.
- Formal members of the ISO/ANSI/IEC Graphene Standards development working groups.
- Deliver news on graphene research, commercial developments and patent filings world-wide, and craft original industry reports and intelligence.
- We connect more than 30k materials scientists in academia and industry globally and reach hundreds of thousands of engineers and industry specialists through strategic partnerships.

www.TheGrapheneCouncil.org







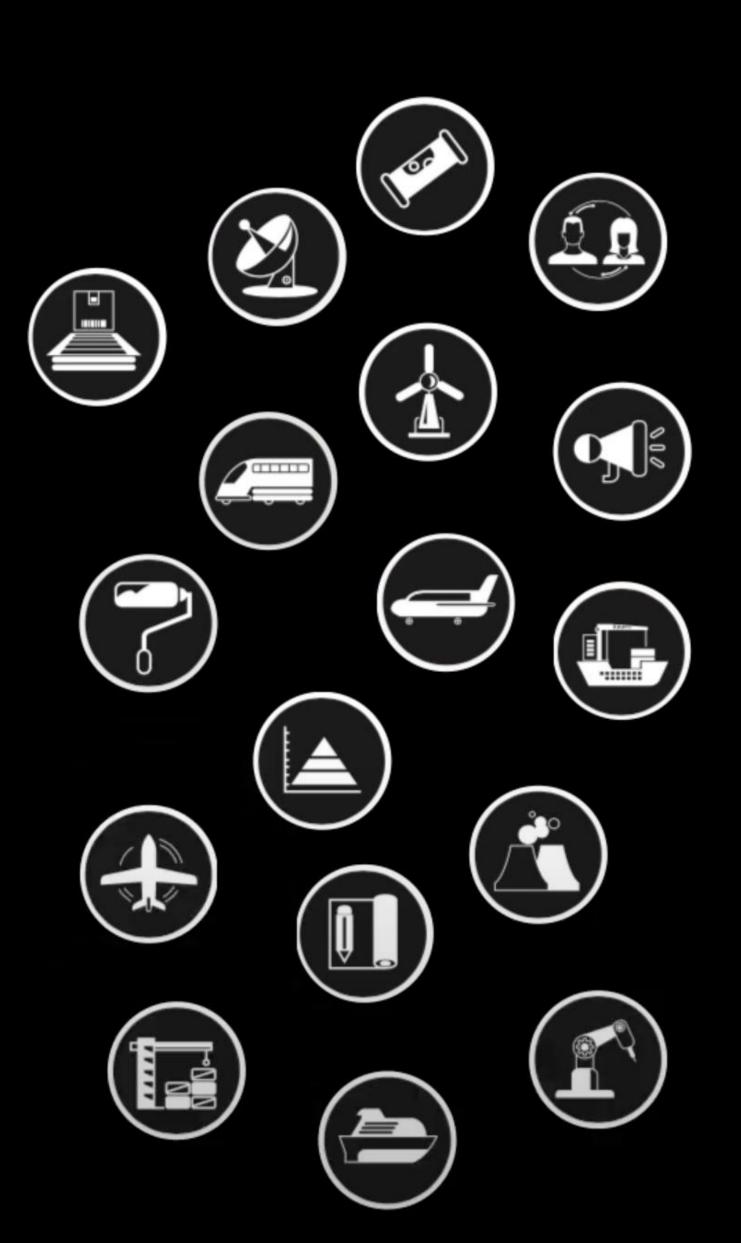
Graphene Commercial Applications

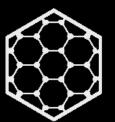
Graphene can be applied to more than 45 industrial sectors and applications.

- Additive Manufacture
- Aerospace
- Automotive
- Barrier Properties
- Coatings
- Composites
- Concrete & Cement
- Conductive Ink
- Corrosion
- Electrochemical
- Electronics
- Energy Generation
- Energy Storage
- Hall Effect Sensors

- Lubricants
- Magnets
- Medical Applications
- NEMS
- Optical Modulators
- Optoelectronics
- Photodetectors
- Piezoelectric Devices
- Plasmonics
- Plastics
- Polymers
- Pressure Sensors
- Quantum Dots
- Rubber

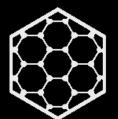
- Synthetics
- Semiconductors
- Sensors
- Sound Transducers
- Spintronics
- Structural Materials
- Thermal Management
- Touch Screens
- Transistors
- Transparent
 Electrodes
- Water Filtration
- Waterproof Coatings





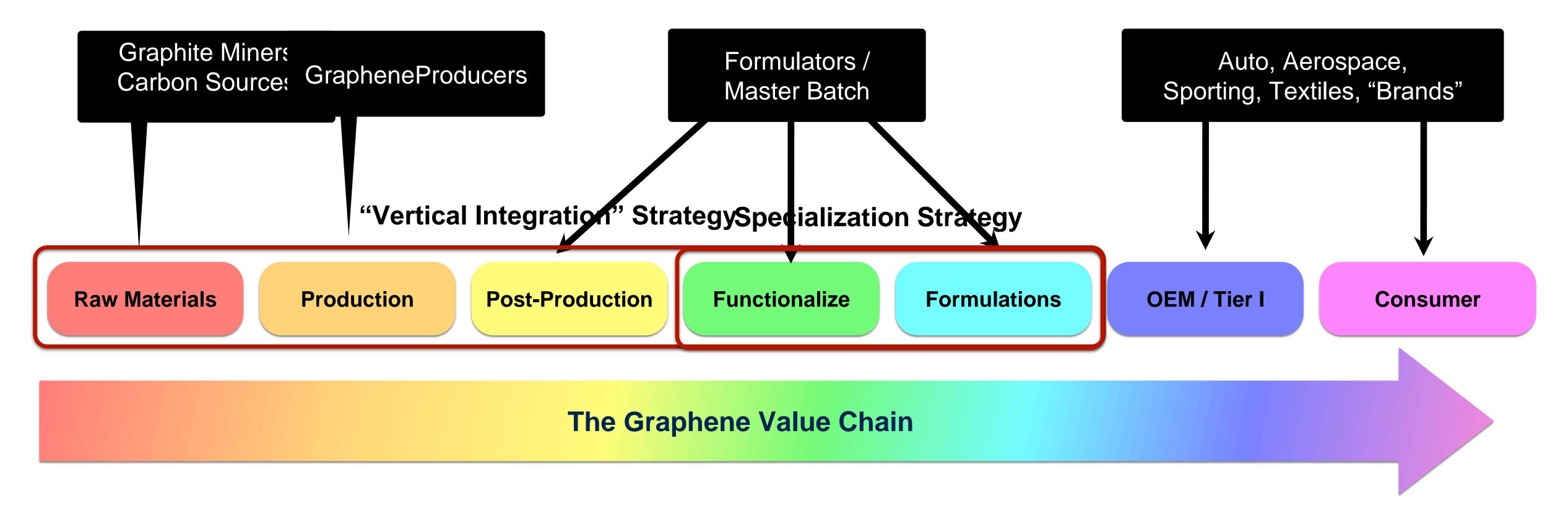
Graphene Vale Chain

	Raw Materials	Production	Material	Functionalize	Formulation	OEM	Consumer
	Graphite	Exfoliation	GNP	Chemical	Master Batch	Energy Storage	Batteries
	Bio Matter	Sonication	GO	Plasma	Slurries	Plastics	Super Capacitors
Multilayer	Ethanol	Surfactants	rGO	Oxidation	Composites	Rubber	Solar Cells
	Coal / Oil	Chemical	Dry Powder		Dispersions	Coatings	3D Filaments
							Sporting Goods
		••••••	• • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •	•••••	•_••••••	• • • • • • • • • • • • • • • • • • • •
Monolayer	Methane	CVD	Film			Sensors	Displays
	CO2	Plasma	Roll			Bio-Medical	Coatings
			Wafer			Electronics	
			Substrate			Opto-electronics	
						Lasers	
							Graphene Co

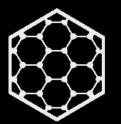


Graphene Vale Chain

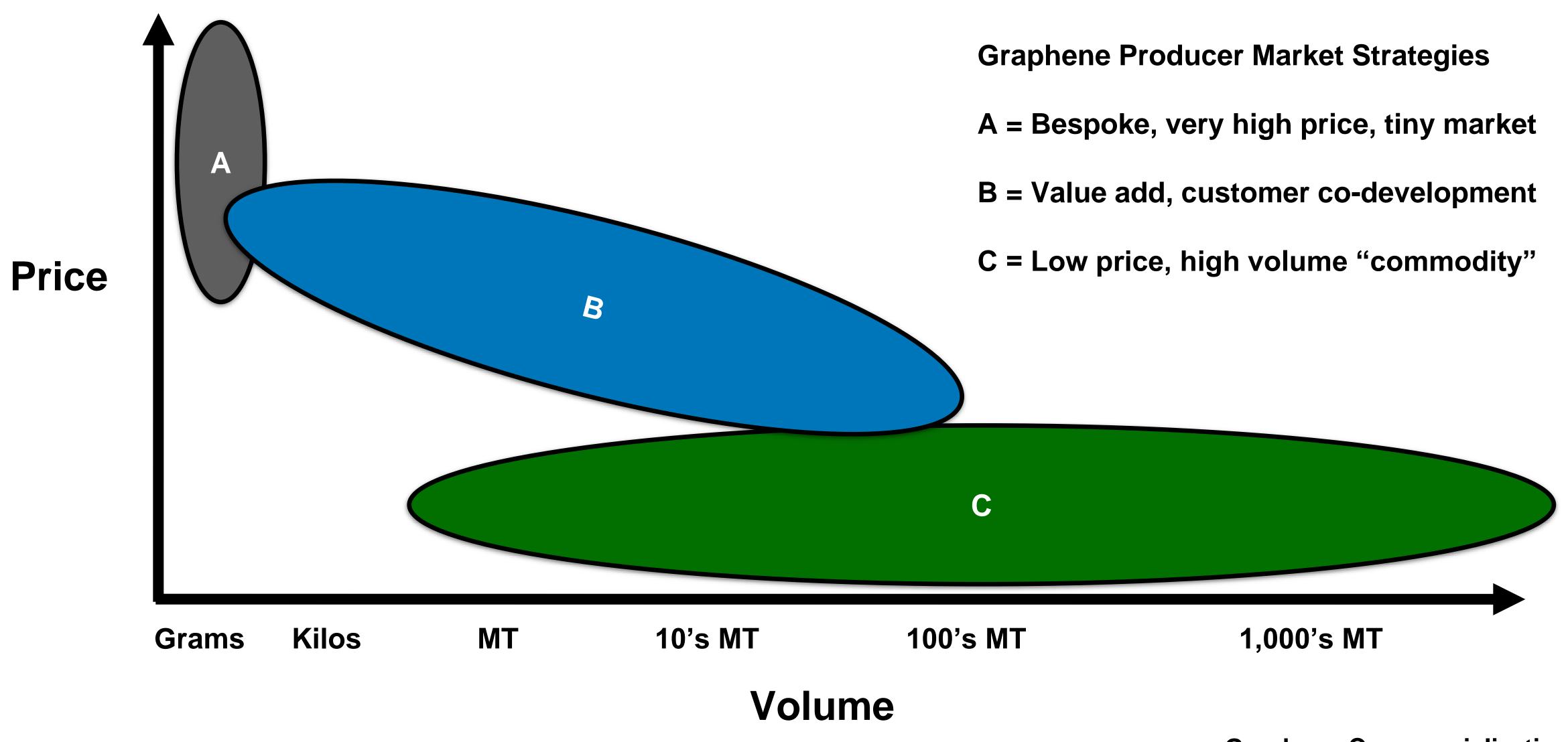
• Value Chain and Market Segmentation - Each company in the graphene sector occupies one or more of the value chain segments. Some employ a vertical integration strategy which includes several segments of the value chain designed to capture more of the available value or profit.



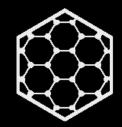




Graphene Commercialization Trends

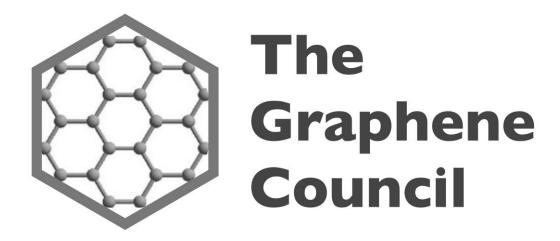






The Graphene Council





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