

Graphene Enhanced Carbon Fibre Reinforced Plastics

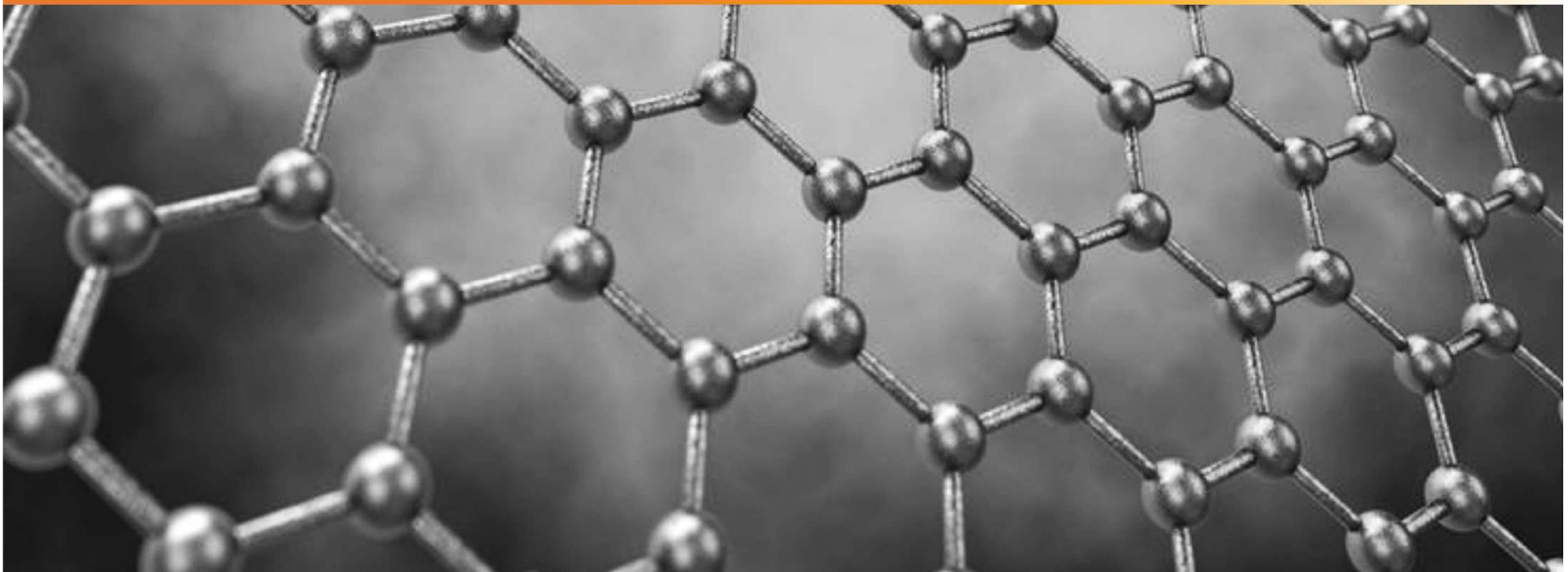


2-DTECH
Two dimensional materials

MANCHESTER
1824

The University of Manchester

Craig Dawson – R&T Officer



Knowledge Transfer

➤ Core Development

- Prof. Robert Young
- Prof. Ian Kinloch
- Dr Mladen Montovilic
- Epoxy matrices
- CFRP with Unidirectional fibres
- Dispersion techniques



Applications for developments

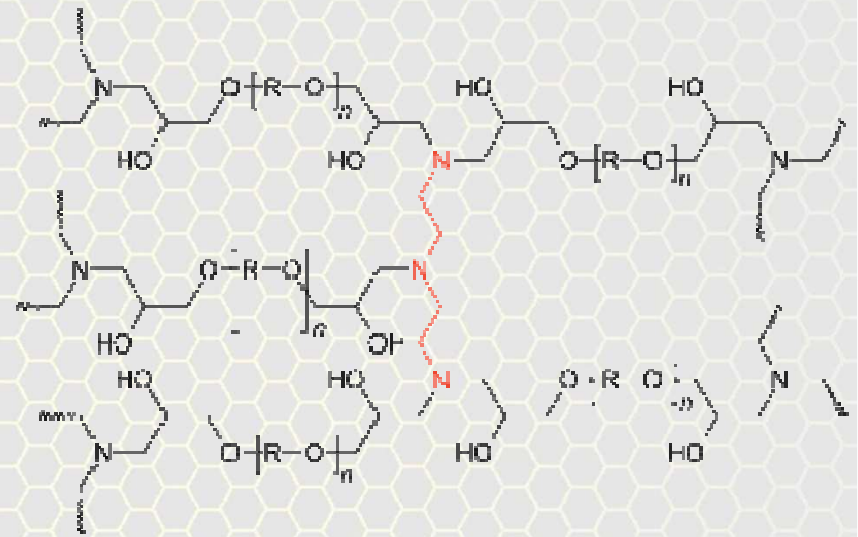
- **Automotive**
- **Aerospace**
- **Marine**
- **Light-weighting**
- **Strengthening**
- **Sensing/Smart components**
- **Polyester**
- **Polyurethane**
- **Elastomers**
- **Coatings**



Graphene enhanced CFRP

Thermoset resin systems made better:

- Improved performance
- Better resin/fibre adhesion
- Blunt crack propagation
- Enhance thermal dissipation
- Induced electrical conductivity



- **25% improvement in modulus of the Epoxy matrix**
- **30% improvement in longitudinal modulus of CFRP**
- **36% improvement in UTS of the epoxy matrix**
- **23% improvement in transverse UTS of CFRP**
- **52% improvement in transverse sheer strength of CFRP**



Versarien

Advanced Composites



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Aerocomp

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