

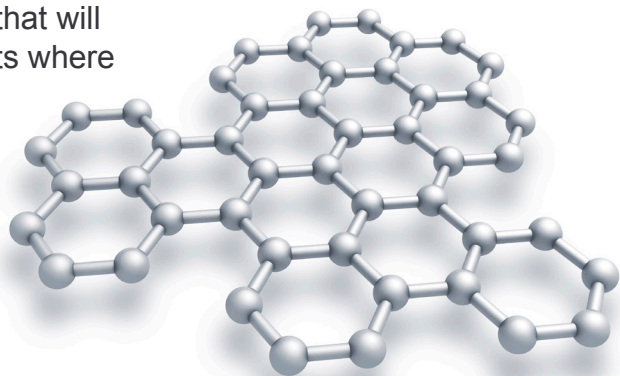


## Graphene-Reinforced Epoxies for High Performance Applications

### theProject

nanoSynth will develop a synthesis platform to manufacture industrial quantities of graphene-filled epoxy resins that will deliver significant benefits to a wide range of markets where improvements are needed in strength, stiffness, toughness, electrical conductivity and thermal performance of epoxies.

The primary applications being targeted within nanoSynth are composite resins and pre-pregs for use in aerospace components.



### theConcept

Graphene is usually obtained industrially by expanding and separating graphite layers using combined thermal and chemical methods. These methods are typically energy-intensive, low yield and use large amounts of solvent.

Attempts to produce and disperse graphene in situ focus on viscous thermoplastic systems but little attention is being paid to low viscosity epoxy resins, despite a need to improve their properties and a world market of £9.8bn.

nanoSynth will therefore develop methods for producing large-scale quantities of graphene-filled epoxy resins, using combinations of mechanical and non-contact methods to exfoliate graphite and disperse the resulting graphene directly into resin with consideration given to safety assurances throughout the project.

### Contact

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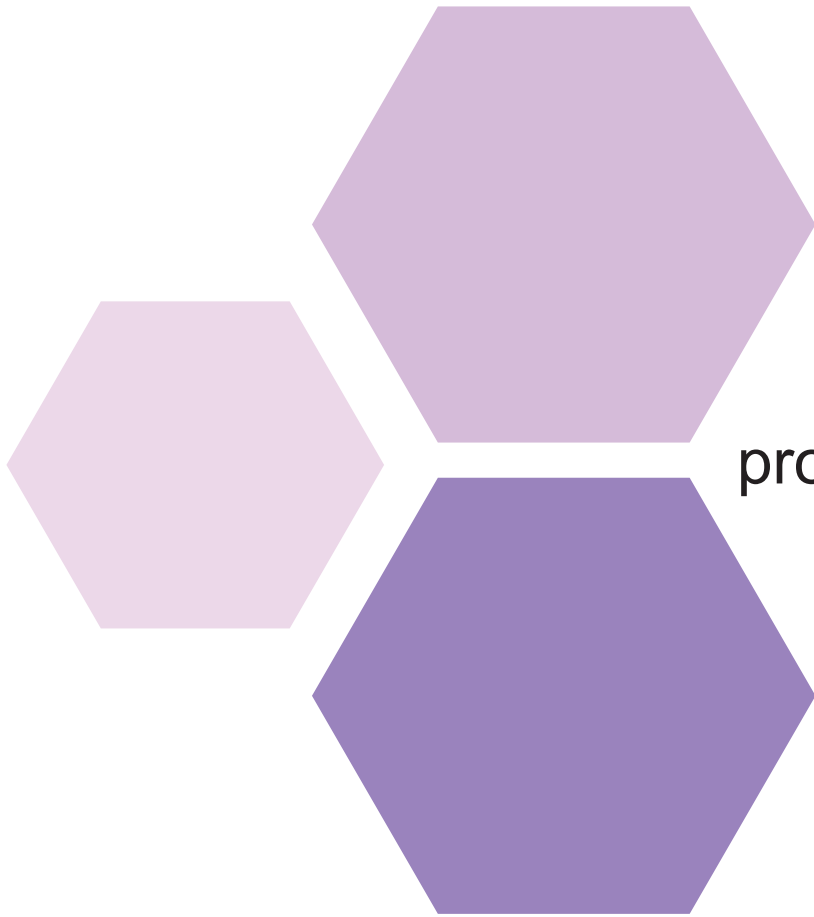
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