Large scale sustainable production of graphene for real-life applications

Dr Krzysztof K.K Koziol

FGV Cambridge Nanosystems, 17 Mercers Row, Cambridge CB5 8HY, United Kingdom

In order to achieve industrial scale deployment of advanced nanomaterials like graphene, it is important to manufacture them at the quality and quantity levels required to satisfy their expected performance. The large scale graphene manufacturing process developed by FGV Cambridge Nanosystems in United Kingdom is capable of making the material without the need of catalyst, substrate, solvents and any liquid processing. We are able to engineer graphene at the molecular level to achieve the desired material quality with maximum performance on macroscopic scale. The continuous large scale production of pure graphene is carried out by direct conversion of natural gas, like methane or biomethane, achieving highest quality and purity level of the material. Due to the scale of the production and the nature of precursors used, the graphene generated on a very large scale is very affordable and capable of serving the large volume demand required by many industries. Graphene has been demonstrating its usefulness in a plethora of applications, it will enable technologies which otherwise would be impossible to use, it will revolutionise our industry and manufacturing processes of many products. Selected applications in, automotive, aerospace and construction will be discussed with some of the immediate prototypes presented.





Single layer, ultra high purity CamGraph produced from biogas