Centre will take graphene research to 'next level'

A new state of the art research centre, dedicated to taking graphene to the 'next level', is to open at the University of Cambridge.

The £25million Cambridge Graphene Centre, due to open at the end of 2013, will target the manufacture of graphene on an industrial scale, and applications in the areas of flexible electronics, energy, connectivity and optoelectronics.

Professor Bill Milne, who will be part of the centre's management group, said: "Graphene has amazing fundamental properties, but at the moment we cannot produce it in a perfect form over large areas. "Our first aim is to look at ways of making graphene that ensure it is still useful at the end of the process. We have to find modes of production that are consistently effective – and there is still a lot of work to be done in this respect."

One such project, led by Dr Stephan Hofmann, a specialist in nanotechnology, will look specifically at the manufacturability of graphene and other, layered, 2d materials.

At the moment, sheets of graphene that are just one atom thick are difficult to grow in a controllable manner, manipulate, or connect with other materials.

The research team will focus on a growth method called chemical vapour deposition, which has already opened up other materials, such as diamond, carbon nanotubes and gallium nitride, to industrial scale production.

"The process technology will open up new horizons for nanomaterials, built layer by layer, which means that it could lead to an amazing range of future devices and applications," Dr Hofmann said.

Other work will focus on taking graphene from a state of raw potential to a point where it can 'revolutionise' flexible, wearable and transparent electronics.

The centre has been opened with £12m of funding from the EPSRC, and an additional £13m from industrial partners, including Nokia, Dyson, Plastic Logic, Philips and BAE systems.

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