

Graphene: the future in a pencil trace

November 25 2011

(PhysOrg.com) -- The European programme for research into graphene, for which the Universities of Cambridge, Manchester and Lancaster are leading the technology roadmap, today unveiled an exhibition and new videos communicating the potential for the material that could revolutionise the electronics industries.

An exhibition has been launched in Warsaw today highlighting the development and future of [graphene](#), the ‘wonder substance’ set to change the face of electronics manufacturing, as part of the Graphene Flagship Pilot (GFP), aimed at developing the proposal for a 1 billion European programme conducting research and development on graphene, for which the Universities of Cambridge, Manchester and Lancaster are leading the [technology roadmap](#).

The [exhibition](#) covers the development of the material, the present research and the vast potential for future applications. The GFP also released two videos aimed at introducing this extraordinary material to a wider audience, ranging from stakeholders and politicians to the general public. The videos also convey the mission and vision of the graphene initiative.

“Our mission is to take graphene and related layered materials from a state of raw potential to a point where they can revolutionise multiple industries – from flexible, wearable and transparent electronics to high performance computing and spintronics” says Professor Andrea Ferrari, Head of the Nanomaterials and Spectroscopy Group.

“This material will bring a new dimension to future technology – a faster, thinner, stronger, flexible, and broadband revolution. Our program will put Europe firmly at the heart of the process, with a manifold return on the investment of 1 billion Euros, both in terms of technological innovation and economic exploitation.”

Graphene, a single layer of carbon atoms, could prove to be the most versatile substance available to mankind. Stronger than diamond, yet lightweight and flexible, graphene enables electrons to flow much faster than silicon. It is also a transparent conductor, combining electrical and optical functionalities in an exceptional way.

Graphene has the potential to trigger a smart and sustainable carbon revolution, impact in information and communication technology is anticipated to be enormous, transforming everyday life for millions.

It is hoped that the unique properties of graphene will spawn innovation on an unprecedented scale for myriad areas of manufacturing and electronics – high speed, transparent and flexible consumer goods; novel information processing devices; biosensors; supercapacitors as alternatives to batteries; mechanical components; lightweight composites for cars and planes.

The Warsaw meeting has seen the gathering of EU and national politicians, national funding bodies and research policy makers, EC representatives, and key stakeholders from the scientific community associated to the pilots. At the meeting, the six short-listed pilots presented their vision, objectives, and expected impact on science, technology and society. This follows a successful meeting in Madrid with over 80 European companies interested in developing graphene science into technology.

Dr Jani Kivioja, from the Cambridge-Nokia Research Centre, said: “We

got overwhelming interest in graphene technology from a large number of companies. We are now working to form a Graphene Alliance to formulate and sharpen the graphene technology roadmap for Europe. This alliance of the leading EU technology companies will be instrumental in keeping Europe at the forefront of the graphene technology development. The potential prospects for job and wealth creation are huge.”

Provided by University of Cambridge

Citation: Graphene: the future in a pencil trace (2011, November 25) retrieved 24 April 2024 from <https://phys.org/news/2011-11-graphene-future-pencil.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.