EUROPEAN COMMISSION

PRESS RELEASE

Brussels, 28th January 2013

Graphene and Human Brain Project win largest research excellence award in history, as battle for sustained science funding continues

The European Commission today announced the winners of a multi-billion euro competition of Future and Emerging Technologies (FET). The winning Graphene and Human Brain initiatives are set to receive one billion euros each, to deliver 10 years of world-beating science at the crossroads of science and technology. Each initiative involves researchers from at least 15 EU Member States and nearly 200 research institutes.

"Graphene" will investigate and exploit the unique properties of a revolutionary carbon-based material. Graphene is an extraordinary combination of physical and chemical properties: it is the thinnest material, it conducts electricity much better than copper, it is 100-300 times stronger than steel and it has unique optical properties. The use of graphene was made possible by European scientists in 2004, and the substance is set to become the wonder material of the 21st century, as plastics were to the 20th century, including by replacing silicon in ICT products.

The "Human Brain Project" will create the world's largest experimental facility for developing the most detailed model of the brain, for studying how the human brain works and ultimately to develop personalised treatment of neurological and related diseases. This research lays the scientific and technical foundations for medical progress that has the potential to will dramatically improve the quality of life for millions of Europeans.

The European Commission will support "Graphene" and the "Human Brain Project" as FET "flagships" over 10 years through its research and innovation funding programmes. Sustained funding for the full duration of the project will come from the EU's research framework programmes, principally from the Horizon 2020 programme (2014-2020) which is currently negotiated in the European Parliament and Council.

European Commission Vice President Neelie Kroes said: *"Europe's position as a knowledge superpower depends on thinking the unthinkable and exploiting the best ideas. This multi-billion competition rewards home-grown scientific breakthroughs and shows that when we are ambitious we can develop the best research in Europe. To keep Europe competitive, to keep Europe as the home of scientific excellence, EU governments must agree an ambitious budget for the Horizon 2020 programme in the coming weeks."*

"Graphene" is led by Prof. Jari Kinaret, from Sweden's Chalmers University. The Flagship involves over 100 research groups, with 136 principal investigators, including four Nobel laureates. "The Human Brain Project" involves scientists from 87 institutions and is led by Prof. Henry Markram of the École Polytechnique Fédérale de Lausanne.

Contacts :

Ryan Heath (+32 2 296 17 16), Twitter: @RyanHeathEU

Linda Cain (+32 2 299 90 19)

Spokespersons' Service
Service des Porte-parole

IP/13/54

The future of computing and science will be driven by collaboration. The FET flagships programme is a world-leading effort to ride this wave. The flagship race has fostered collaboration on a new scale and duration. Instead of the usual two-to-four year funding cycles, the 10 year duration and the massive financial incentive has driven the level of science in the project proposals to a much higher level, which will deliver greater benefits to Europe over the long-term, including new technologies and faster innovation.

Background

Horizon 2020 is the new EU programme for research and innovation, presented by the Commission as part of its EU budget proposal for 2014 to 2020. In order to give a boost to research and innovation as a driver of growth and jobs, the Commission has proposed an ambitious budget of €80 billion over seven years, including the FET flagship programme itself.

The winners will receive up to €54 million from the European Commission's ICT 2013 Work Programme. Further funding will come from subsequent EU research framework programmes, private partners including universities, Member States and industry.

Graphene: this material looks to become as important as steel or plastics in the long-term. Research on graphene is an example of an emerging translational nanotechnology where discoveries in academic laboratories are rapidly transferred to applications and commercial products. Graphene and related materials have the potential to make a profound impact in ICT in the short and long term: integrating graphene components with silicon-based electronics, and gradually replacing silicon or enabling completely new applications. Beyond ICT, graphene research will significantly impact energy and transport, and also health.

Human Brain Project: as a result of this initiative, in neuroscience and neuroinformatics the brain simulation will collect and integrate experimental data, identifying and filling gaps in our knowledge. In medicine, the project's results will facilitate better diagnosis, combined with disease and drug simulation. In computing, new techniques of interactive supercomputing, driven by the needs of brain simulation, will impact a range of industries, while devices and systems, modelled after the brain, will overcome fundamental limits on the energy-efficiency, reliability and programmability of current technologies, clearing the road for systems with brain-like intelligence.

Useful links

See MEMO/13/36

Digital Agenda website

Neelie Kroes' website

Follow Neelie Kroes on Twitter