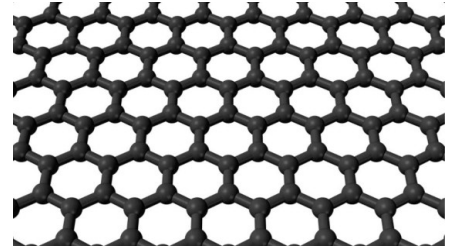


# Research News

## Europe pledges one billion euros on graphene as platform for emerging technologies

A major research initiative which will create a European network of academics and companies working on graphene has been approved, with the University of Cambridge set to take a leading role.



The European Commission announced today that it has chosen Graphene as one of Europe's first "Future Emerging Technology" flagship programmes, described as "the largest research excellence awards in history". Worth a total of €1 billion, the project will aim to take graphene and other, related, layered materials from academic laboratories to society. The hope is that, in the future, it will revolutionize industries and stimulate economic growth.

Graphene, a one-atom-thick layer of carbon atoms with remarkable properties and potential, has been the subject of a scientific explosion since ground-breaking experiments in Manchester in 2004. The flagship is also one of three graphene-related initiatives announced since December alone which feature Cambridge in a central role, confirming the importance of its strength as a centre of expertise both in related research and commercialisation activities.

Professor Andrea Ferrari, Director of the Cambridge Graphene Centre, said "The grand challenge for the flagship is to target applications and manufacturing processes, at the same time broadening research to other two-dimensional materials and hybrid systems. The integration of these new materials could bring a new dimension to future technologies, creating faster, thinner, stronger, more flexible broadband devices".

"We recognize that there is still much to be done before the early promise of graphene becomes reality. The large funding the EU is ready to invest in our vision puts a huge burden or responsibility on our shoulders, and will require us to focus on results and stay away from hype."

The Graphene Flagship is a joint, co-ordinated research initiative of unprecedented scale. It brings together an academic and industrial network from 17 different countries and 126 research groups. Together, they will work on graphene development programmes designed to cover the entire value-chain, from production through to the manufacturing of graphene-based components and systems integration.

Cambridge, which led the original "science & technology roadmap" of the successful bid for the Graphene Flagship – will guide on the development of opto-electronic devices based on graphene, as well work on flexible electronics, nano-composites, energy and large scale production of the material. In the future, researchers hope to be able to create technologies such as electronic paper and bendable personal communication devices based on the material, as well as lighter and more energy-efficient aeroplanes.

The initial, 30-month budget for the flagship will be €54 million from the EU, which will be complemented by significant investments from several of the member states.

The flagship will be co-ordinated by Chalmers University of Technology based in Gothenberg, Sweden. The Director is Professor Jari Kinaret, who will lead the research activities together with the leaders of different work packages, details of which can be found at: [www.graphene-flagship.eu](http://www.graphene-flagship.eu)

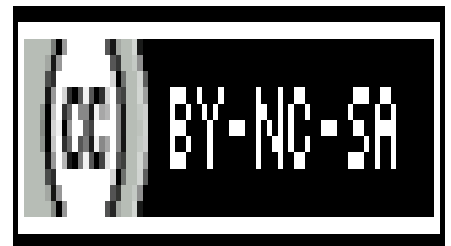
During its first 30 months, the Flagship will focus on developing new information and communications technology based on graphene, the physical transport sector, and supporting applications in the fields of energy technology and sensors.

After this "ramp-up" phase, the flagship will incorporate additional research groups and incorporate new development activities as well. These will be guided partly by the Horizon 2020 programme of the European Union.

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—Andrea Ferrari

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—*Andrea Ferrari*

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