

## NATURE | BREAKING NEWS

# Billion-euro brain simulation and graphene projects win European funds

**Efforts to model the whole brain and to push graphene into the marketplace triumph in flagship contest.**

**Alison Abbott**

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The European Commission has selected the two research proposals it will fund to the tune of half-a-billion euros each after a two-year, high-profile contest.

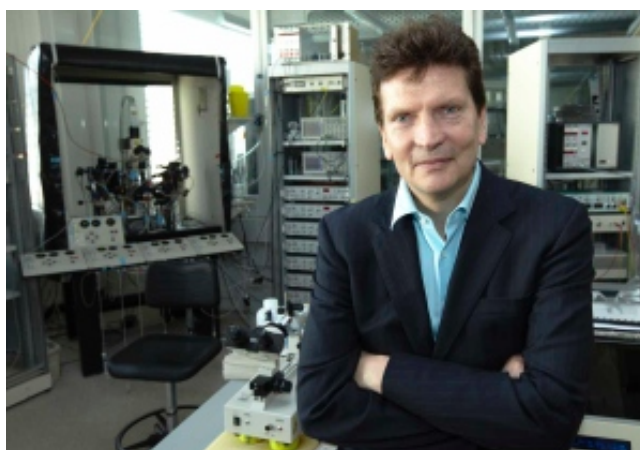
The Human Brain Project, led by neuroscientist Henry Markram at the Swiss Federal Institute of Technology (EPFL) in Lausanne, plans to simulate everything known about the human brain in a supercomputer — a breathtaking ambition that has been met with some scepticism (See “Brain in a box”).

The other project, called Graphene, is led by theoretical physicist Jari Kinaret at Chalmers University of Technology in Gothenburg, Sweden. It will develop the potential of graphene — an ultrathin, flexible and conducting form of carbon — along with related materials for applications in computing, batteries and sensors.

The projects expect to receive €1 billion over ten years, half to be provided by the European Commission and half by participants. The commission will make its formal announcement on Monday, 28 January.

The Future and Emerging Technologies (FET) Flagship competition was launched in 2009 as a challenge to apply information and communication technologies to social problems. The Human Brain Project claims that it will aid medical advancement in brain disorders. Graphene claims it will lead to development of new materials that will revolutionise diverse industries.

The final winners were selected from a shortlist of six projects as being the most likely to achieve the paradigm-shifting advances they claim. They will now enter the so-called ‘ramp-up’ phase, each receiving €54 million over 30 months. That represents the last cash available from the EU’s expiring 7th



Henry Markram is co-director of the Human Brain Project, one of two programmes to win €500 million of European funding.

*DENIS BALIBOUSE/REUTERS*

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Subsequent phases will be supported under its successor programme, Horizon 2020, though the structure of that programme is still being negotiated and some observers fear that funds may be scaled back.

Competition winners declined to comment to *Nature* in advance of the official announcement, though news of the selections had already been reported by Spanish and Italian outlets. But scientists in losing projects said that the competition was helpful because of the interdisciplinary contacts they forged. Physicist-turned-sociologist Dirk Helbing, of the Swiss Federal Institute of Technology (ETHZ) in Zurich, is still upbeat about the candidate project he helped to lead: FuturICT, which proposed planetary-scale modelling of human activities and their impact on the environment. "We created a whole new science for the twenty-first century and we are planning to live on," he says.

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### Brain in a box

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