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Europe boosts industrial research in Nano-electronics

An unprecedented € 3 billion will be invested in nanoelectronics, with the launch today of a major Joint Technology Initiative (JTI) endorsed by the Council of Ministers and by the European Parliament at the end of 2007. This initiative, called ENIAC, is a new public-private partnership which targets nanoelectronics, the technology that enables increasingly high levels of miniaturisation in the myriad of applications and high-tech products which are emerging today. The Governing Boards of this ENIAC – where public and private stakeholders take decisions jointly – meet for the first time in Brussels today.

"Today, it is the smallest technologies that are taking the largest leaps forward, and our industries must do the same", said Viviane Reding, EU Commissioner for Information Society and Media. *"The possibilities offered by nanoelectronics are only limited by our imagination. They underpin all aspects of everyday devices and so concern everyone in Europe. ENIAC which has a budget of € 3 billion over 10 years is a concrete way to ensure that such a key industrial sector continues its strong economic growth, right here in Europe. It is only thanks to the support received for ENIAC from the European Parliament and from the Council that we can launch this new research initiative today".*

The smallest thing your eye can see might be a strand of hair or a silk fibre. If you try to imagine something a thousand times smaller, you've reached the mysterious realm of the nanoworld where billions of electronic devices can be made at molecular level, e.g. in the space of just a few square millimetres. When combined with powerful and reliable software, these miniature electronic devices can deliver new features and services for improving our daily lives. Such nanoelectronics and computing technologies trigger and serve innovation in many industrial and socio-economic sectors including telecommunications, transport, consumer goods, manufacturing, healthcare and energy. For example, a car today has anything between fifty and a hundred electronic chips which control the engine, steering, braking, stability, dashboard, entertainment system, navigation and more. This has led to reductions in fuel consumption and improved safety for occupants. In the future, we can expect further reduction in emissions with computer-controlled hybrid engines and collision avoidance for pedestrians and other vehicles.

Europe's semiconductor industry is worth around € 200 billion today, and drives a € 800 billion electronic systems market. Estimates indicate 8-10 % annual growth in this sector in the coming years, three times more than overall economic growth. The € 3 billion investment in ENIAC in the coming 10 years represents a substantial boost to the longer-term developments based on nanoelectronics, which will largely supersede the current generation of microelectronic devices within the same time period.

To promote economies of scale, cost savings and much shorter times to market for products based on these technologies, and so to keep European industry at the forefront of global developments in these fields, the EU has decided following a Commission proposal from May 2007 (see IP/07/668) to pioneer an entirely new way of funding such research in Europe. The Commission and the EU Member States who wish to participate will pool their public funding with universities and industry, including many innovative SMEs, by setting up public-private partnerships. While research funding in nanoelectronics so far tends to be fragmented in small projects funded by individual Member States and agencies, the new "open" consortium ENIAC allows Member States and the Commission to co-operate and co-finance pan-European research initiatives focussed on a strategic agenda set by Industry itself.

At the moment, the following Member States participate in ENIAC: Austria, Belgium, Czech Republic, Estonia, France, Germany, Greece, Ireland, Italy, the Netherlands, Poland, Portugal, Spain, Sweden, and the United Kingdom.

Background:
Agreement on ENIAC was reached first by the Competitiveness Council on 23 November (see MEMO/07/479) and then by the European Parliament on 11 December (see IP/07/1896). An EU Regulation allowing ENIAC to be set up was formally approved by the Council on 20 December 2007 and published in the EU's Official Journal on 04 February 2008.

Within the next few months ENIAC will be fully operational as an organisation based in Brussels with its own rules, own staff, premises and budgets. Its tasks will include co-ordinating research through calls for proposals and funding of research projects of European scale. The idea of such a Joint Undertaking is to streamline the provision of project funding from both the public and private sector, in order to bring innovations to the market quicker.

The European Commission also launched today a second Joint Technology Initiative called ARTEMIS which targets embedded computing systems (see IP/08/283). These two JTIs represent a breakthrough in efficient implementation of research programmes at the scale and speed needed to keep Europe at the forefront of global competition.

For more information on JTIs see:

MEMO/07/570

http://cordis.europa.eu/fp7/jtis/ind_jti_en.html#eniac

http://cordis.europa.eu/fp7/jtis/ind_jti_en.html#artemis

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