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The Commissioners for Research and Enterprise and Information Society, Philippe Busquin and Erkki Liikanen, have welcomed a vision document drawn up by a high level group that sets out a future strategy for nanoelectronics in Europe.

Nanoelectronics is a new field of technology that has emerged from the already well established microelectronics industry. With the trend towards ever smaller and faster devices, nanoelectronics is considered by many experts to be the key enabling technology of the future, and while the global electronics industry is currently valued at around 800 billion euro, other industries worth a combined 5,000 billion euro are dependent on the technology.

The document presented by the high level group on 29 June, entitled 'Vision 2020: nanoelectronics at the centre of change', describes itself as 'the first building block of a new European initiative for nanoelectronics.' It provides an overview of what the next 15 years will bring in this area of technology, and lays down the key requirements necessary for Europe to achieve a position of global leadership.

First and foremost is the creation of a European technology platform for nanoelectronics, which the vision document states will: 'enable industry, research institutions, university researchers governmental authorities and financial organisations to interact over a long time frame [...] with a view to fostering collaboration and the best use of talent and infrastructures.'

As with those technology platforms established in other fields, a central responsibility for the stakeholders involved will be to draw up and implement a long term strategic research agenda, and an accompanying action plan based on concrete goals. To pave the way for this process, the Commission has formed an initial steering committee, with Pasquale Pistorio, president and CEO of STMicroelectronics as its chair.

'The only way for Europe to be competitive in the future is for us to base our activities in innovative and high value added industries and services, and I believe that nanoelectronics is the single most important area of future technology,' said Mr Pistorio. He identified two objectives for the steering committee - to transform the vision document into a practical roadmap, and to look at ways in which Europe can avoid a duplication of research and investment.

The success of the platform will be measured in terms of its effectiveness in increasing overall employment and productivity levels, improving Europe's overall global position in terms of market share, boosting public and private investment in research, and increasing the number of students in nanoelectronics related fields.

As well as the technology platform and strategic research agenda, other prerequisites for European leadership in nanoelectronics include greater coordination between the EU's framework programmes, Eureka's (MEDEA+)

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programme for industrial microelectronics research, and national programmes, as well as securing the availability of a well trained and multidisciplinary workforce, according to the high level group.

In terms of funding levels, the vision document estimates that overall spending on research in nanoelectronics in Europe needs to double from its current level of three billion euro per year to six billion euro by 2008. The high level group argues that this will require a substantial amount of public funding to be leveraged, as well as a 'technology-aware' banking sector. 'Government contributions to microelectronics are lower than they should be,' stated Mr Pistorio. 'We are not asking for an unfair advantage be increasing public funding, we are asking not to be left at an unfair disadvantage.'

There were no signs of any disagreement from the two Commissioners, however. Mr Liikanen remarked that many leading economists in Europe had already told him personally of the essential role that nanoelectronics will play in raising productivity and increasing the value of products.

For his part, Mr Busquin reminded stakeholders that he had requested that the EU budget for research be doubled in the Commission's latest financial perspectives, and indicated that nanoelectronics could be a beneficiary if his requests are anwered. He also asked the steering committee to carry out their work promptly: 'It is important that you conclude by the middle of 2005, as the Seventh Framework Programme [FP7] will be under discussion from the beginning of the year. Clear guidelines from you will make it much easier for the Commission to include your recommendations in its work.'

Given the importance that all stakeholders had placed on achieving success in nanoelectronics, CORDIS News concluded by asking Mr Pistorio how well placed Europe now is to attain a leadership role compared with counterparts in the US and Asia. 'I think Europe is pretty well placed,' said Mr Pistorio. 'When I came back to Europe in the early '80s, everyone was saying that microelectronics was dead here, but a lot has changed since then, thanks to Eureka and the EU framework programmes.

'The challenge is very great - from the US and Japan, but also from countries like Korea and China - but we do have some great advantages, such as 50 years of tradition in education, and some excellent infrastructures. We mustn't wait, however, we must take the opportunity now if we wish to gain a competitive advantage,' Mr Pistorio concluded.

Contact person:

To read the vision document, please consult the following web address: http://www.cordis.lu/ist/eniac/

For further information on the Commission's nanotechnology activities, please visit: http://www.cordis.lu/nanotechnology/

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