

Revising the strategy for nanoelectronics RTD in Europe

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The component and systems business in Europe increased to concentrate on added value operations, on systems integration and on enabling the end user industry to offer new technologies and total product/service solutions. The trends in miniaturisation, diversification and increasing software content remain valid and increasing emphasis on a systems approach requires significant improvements in chip design tools and methods. At the same time new opportunities are emerging in new technologies and from increased multi-disciplinarity: "beyond CMOS", integrated software/hardware systems, heterogeneous microsystems. The speed of miniaturisation has brought us close to the physical, technological and economical limits of the traditional approaches to guarantee progress in this engineering field. Cross-cutting issues such as efficient energy management or environmental aspects have become a new desirable development objective and are no longer seen as just an obstacle to performance.

Private equity capital, the increasing cost of manufacturing and research for the next generation of basic *nanoelectronics* technologies have been instrumental in the development of a few major global strategic R&D alliances close to manufacturing capabilities. Industrial R&D executed in Europe is shifting towards adding extra functionalities to the basic nanoelectronics technology and to design innovative products. Institutional research is concentrating on long term or higher risk topics, on exploring multi-disciplinarity and on applied research into understanding and controlling new and complex systems.

The presentation will outline how Europe copes with this emerging challenges and will highlights the important changes and new activities related to nanotechnology and nanoelectronics in 2007, a year of change.