

# Next-generation chips

**D**ecreasing the size of transistors will enable the European microelectronics industry to integrate much more onto a chip, increasing functionality and performance.

Microchip circuits can't simply be made bigger to accommodate all the extra new features required by next-generation mobile telephones and computers. So for many years the industry has concentrated on maximising the number of features on a given chip area by decreasing the printed feature size, measured in nanometres (nm). Given the trend for feature size to be reduced by 30% every two years, it was vital for the future competitiveness of European microelectronics to develop 90nm technology in anticipation of market demand in five years' time.

This was the objective of MEDEA+ project T201, achieved last December when its consortium unveiled a powerful demonstrator chip and the advanced technologies required for its manufacture. The prototype is to be launched later this year by the manufacturers working together under France's Crolles 2 nano-electronics alliance and will put them among the few in the world capable of producing circuits featuring 90nm technology.

Substantial investment and support throughout the project's R&D phase were key factors in its success, says Guillermo Bomchil of STMicroelectronics. "The European microelectronics industry has three companies among the world's top 10, but unless we come up with aggressive new technologies like this every two years we could easily be out of the race. The technology roadmap for the semiconductor sector is proceeding faster than originally forecast – only those who get advances to market at precisely the right moment will retain leadership."



MEDEA+ technology will guarantee European mobile phone manufacturers a competitive edge.

## MEDEA+ Project T201

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Countries involved: FR, DE, BE, NL, UK

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MEDEA+ is a EUREKA cluster project (E! 2365). Launched in January 2001, the industry-driven programme aims to stimulate innovation and provide the technology platform which will enable the European microelectronics sector to continue to compete successfully in the global market.