

CATRENE takes up the MEDEA+ challenge as European nanoelectronics R&D champion

Rocketing research and development (R&D) costs for ever smaller electronics devices and the pressures to get products to market even faster make it essential for European industry, research centres and academia to work together to maintain and increase competitiveness and employment in this key sector. A new EUREKA programme, CATRENE (Cluster for application and technology research in Europe on nanoelectronics), is taking up the challenge of boosting Europe's strength in micro- and nanoelectronics as the highly successful MEDEA+ Cluster for advanced cooperative research and development in microelectronics reaches its conclusion.

'For more than a decade, the EUREKA JESSI, MEDEA and MEDEA+ programmes have made it possible for Europe to reinforce its position in semiconductor process technology, manufacturing and applications, and to become a key supplier to global markets such as telecommunications, consumer electronics and automotive electronics,' explains Enrico Villa, new Chairman of CATRENE.

Enormous opportunities

'Nanoelectronics offer enormous opportunities to those who are the first to master and bring to market new technologies and applications,' he adds. 'While the value of the global electronics market is growing rapidly, R&D costs are rising even faster and very few companies can afford their own R&D in all segments of nanoelectronics, making alliances essential. We believe CATRENE will play a vital role in helping Europe's microelectronics industry to go from strength to strength.'

CATRENE is a four-year programme that started 1 January 2008 and is extendable by another four years. Annual resources required will be 4,000 person-years, equalling about 6 billion euro over eight years. The first call started in March this year.

'The challenge is to increase productivity and reduce time to market,' says Villa. CATRENE is extremely important to create European leadership in security, safety and energy-conscious transport, the growing healthcare market; including both prevention and monitoring; environmental protection, high-quality media and entertainment, and integrated communications for both business and consumers. The new Cluster is structured to meet the tough technological demands, offering a new approach while guarding the high flexibility and efficient

organisation found in MEDEA+.

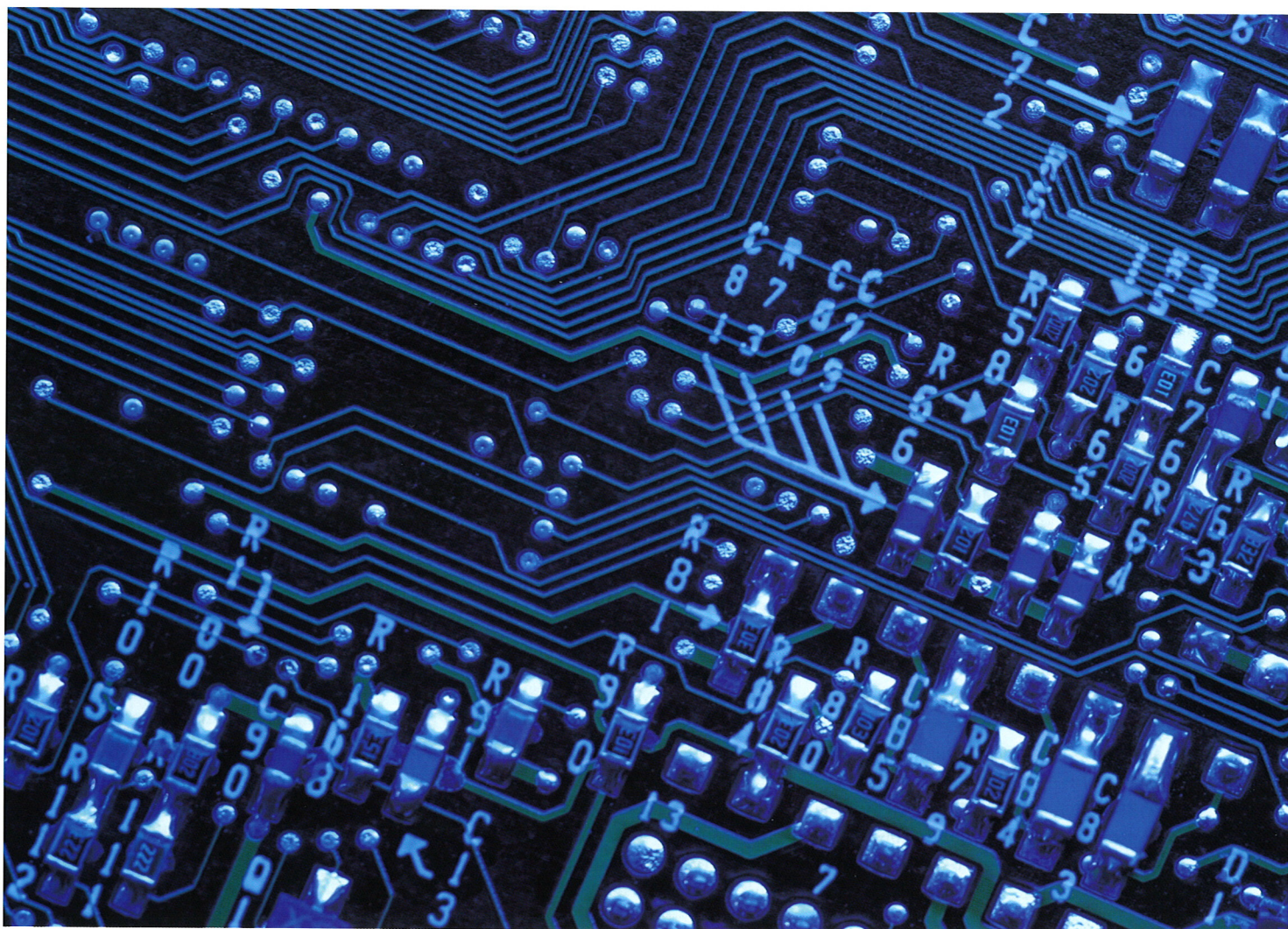
Significant contribution

Since 2001, MEDEA+ has made a significant contribution to establishing and maintaining European leadership in fields ranging from smartcard and image-sensing technologies to automotive electronics. European chipmakers have successfully developed three basic complementary metal oxide semiconductor (CMOS) process generations in line with or even ahead of the global International Technology Roadmap for Semiconductors (ITRS). And CMOS technology continues to dominate manufacture of integrated circuits as the mainstream technology for microprocessors, memory chips and logic circuits.

Including the projects resulting from last year's call, MEDEA+ is and has been supporting 90 projects involving almost 22,000 person-years of effort, with 450 partner organisations from large companies (31%), SMEs (40%), institutes and academia (29%). It delivered important innovations in areas such as automotive safety and traffic control, broadband communications, a more secure society, energy saving and healthcare.

The Cluster helped three European semiconductor companies to rank amongst the world top ten in 2006 and enabled Europe's semiconductor industry to gain 10% of the worldwide market. At the same time, European companies have established a strong global market position as wafer-processing equipment producers, lithography tool and infrastructure manufacturers and substrate and material suppliers. All this in a sector that appeared to be dying on its feet before the first EUREKA microelectronics programme, JESSI, took off in 1989.

> Setting the research agenda



Increasing convergence

While JESSI, MEDEA and MEDEA+ were split into technology and applications sub-programmes, CATRENE recognises the increasing convergence of technology and applications. It is focusing on large identified application markets, from which derive required technologies.

Like MEDEA+, CATRENE will embrace all key actors in the value chain, including applications, technology, materials and equipment suppliers, as well as involving industrial companies of all sizes, universities and other research institutions, supported by the public authorities.

Moreover, CATRENE will increase interaction with other EUREKA Clusters

such as EURIPIDES on packaging, ITEA2 on embedded software and CELTIC on telecommunications. And, close cooperation is foreseen with the European Nanoelectronics Initiative Advisory Council (ENIAC) Joint Technology Initiative, due to start also in 2008.

Lighting the way ahead

An important feature of CATRENE is the concept of lighthouse projects which address major socioeconomic needs such as transport, healthcare, security, energy and entertainment through focused R&D programmes. The role of electronics and information systems is set to increase markedly as European society is faced with structural problems such as an ageing population, exploding healthcare costs, transport bottlenecks, rising energy costs

and the need to be competitive on a worldwide basis.

These social challenges offer major opportunities for European industry. CATRENE will help European companies to address these new markets and to become worldwide market leaders. The thematic lighthouse projects will serve as a focus for specific technology and applications development projects that address these challenges.

For more information on MEDEA+ and CATRENE visit <http://www.medeaplus.org> or email medeaplus@medeaplus.org.