



EUREKA *annual report*

Bringing European Innovation to a World Market



2002
2003



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During Denmark's Chair Year (July 2002 - June 2003), EUREKA has taken a significant step forward in reshaping itself in preparation for its role in the European Research Area (ERA) and to better serve Europe's innovation community. Major initiatives have been implemented to achieve these objectives and 168 new individual projects have been launched with an estimated value of 398 m€. In addition, the cluster programmes, which account for two-thirds of EUREKA's total financial value, generated 14 new projects with a value of 458 m€. This brings the total value of new projects to 856 m€.

EUREKA's market-led approach and extensive links with industry and business make it an essential instrument of the ERA. Equally, they equip the Initiative to play a crucial role in meeting the EU's goal of increasing investment in R&D to 3% of GDP by the end of the decade. To both these ends, the Danish Chair has concentrated on optimising practical links with the EU Framework Programme. The Interparliamentary Conference in June also examined ways of improving support for innovation at the political level, along with the specific measures needed to synchronise relevant policies at local, regional, national and European levels.

Since EUREKA's launch 18 years ago, the political framework in which the Initiative operates has changed considerably; its membership has doubled to 34 countries and will increase still further. EUREKA's long-standing policy of embracing new members is to the ultimate benefit of European innovation and competitiveness, and proof, should the EU need it, that enlargement can be successful and enriching.

EUREKA itself, however, has not evolved to adapt to these changes. The Danish Chair has therefore given the highest priority to streamlining EUREKA's organisation and decision-making processes so that it can become an efficient and dynamic instrument for market-oriented research. Following comprehensive consultations with all members, the Chair proposed major changes to the Initiative's organisational structure and a redefining of the roles and responsibilities of the resulting new bodies.

The Danish Chair also addressed as a matter of priority the challenges of obtaining investment capital from the private sector. For this to happen, projects must be seen to be worthy of the EUREKA label and they must increase their attractiveness to the private finance sector. The Project Assessment Methodology (PAM), a network tool for improving the quality of the EUREKA portfolio, was introduced to help national offices assess projects seeking endorsement more objectively and transparently.

Positioning EUREKA within the evolving ERA, streamlining its organisation and decision-making processes and improving project quality form a three-year agenda developed in collaboration with the ensuing French and Dutch Chairs. The rationale behind this novel, more integrated approach is summed up in three words: continuity, efficiency and quality - all of which have been the guiding principles of the Danish Chairmanship.

A handwritten signature in cursive script that reads "Knud Larsen".

EUREKA will be a dynamic focal point for European innovation by 2005, says Michel Viellefosse, new Head of the Secretariat



EUREKA operates in very different political and economic environments from its launch 18 years ago and faces many challenges. The innovation gap between Europe and its competitors is growing and networks such as ours must put everything we have into exploiting Europe's research potential. The EU's 3% R&D investment target provides the focus, but is only achievable with increased private funding on a Europe-wide scale.

EUREKA, with its market-oriented approach, is one of the best-positioned instruments for generating quality projects and programmes that appeal to private investors. Accordingly, our new Strategic Plan is designed to complete our transformation into a European-wide focal point for European innovation and make us the easiest for all markets to do business with by our 20th anniversary in 2005. The plan aims to:

- Improve market understanding of all strategic domains
- Increase industry involvement and participation
- Promote EUREKA as a primary tool for European competitiveness in ERA
- Increase the attractiveness of our projects to venture capitalists
- Improve EUREKA's efficiency and decision-making processes
- Maximise the use of electronic media in all our areas of activity
- Reinforce the network's coherence and core values and foster a culture of teamwork.

In pursuit of these objectives the incoming French Chair will forge closer links with a more pragmatic approach between EUREKA and the 6th Framework Programme (FP6) within the framework of ERA. It will also continue streamlining the Initiative's structure and decision-making processes. The introduction of the Project Assessment

Methodology (PAM) will strengthen the EUREKA label and identify good, commercial projects to encourage private sector funding.

Raising awareness of the EUREKA label, another priority, will be achieved by: winning greater recognition for our successes, promoting our complementarity with FP6 and other European innovation instruments, and improving our market knowledge through a series of joint communication exercises with FP6 in specific areas with a view to publicising European assets and achievements.

The French Chair will help members to generate new, high quality projects focused on areas of strategic priority; they will be based on strong financing and closely dovetailed with the other European instruments. To reinforce the network's coherence, special attention will be paid to integrating SMEs into the larger projects, while the cluster projects, which to date have not had enough influence in the network's decision-making, will be restored to their primary role within EUREKA. They will make it possible to achieve our ambitious objectives, namely to establish programmes capable of attracting broad support and managed by multiple partners in areas of strategic priority.

EUREKA would like to thank Heikki Kotilainen, previous Head of the Secretariat during the past four years, for his contribution to the Initiative.

A handwritten signature in black ink, appearing to be 'M. Viellefosse'.

EUREKA's remit is to enhance the competitiveness of Europe's industries through the promotion of collaborative, market-led high-technology R&D ventures. The Initiative functions through a network of National Project Coordinators in 33 member countries who facilitate cross-border projects involving multinational companies, SMEs, research organisations and universities.

EUREKA has achieved some measurable successes:

- 3,500 people in 17 European countries are currently collaborating on MEDEA+, one of EUREKA's most productive clusters, to develop the technology and applications of the future for Europe's microelectronics industry with particular reference to broadband communications, the internet and the automotive and security industries.
- The ITEA cluster brings together 2,500 people in 20 countries to work on the interoperability of digital technologies and applications for business, the home and for mobile phones and networks. ITEA embraces many industrial fields, including consumer electronics, telecommunications, avionics, the automotive industry and the health sector.
- 2,000 people are cooperating on other multilateral and innovative projects across a broad spectrum of technologies, including medicine and biotechnology, robotics, new materials and tools, transport and the environment.

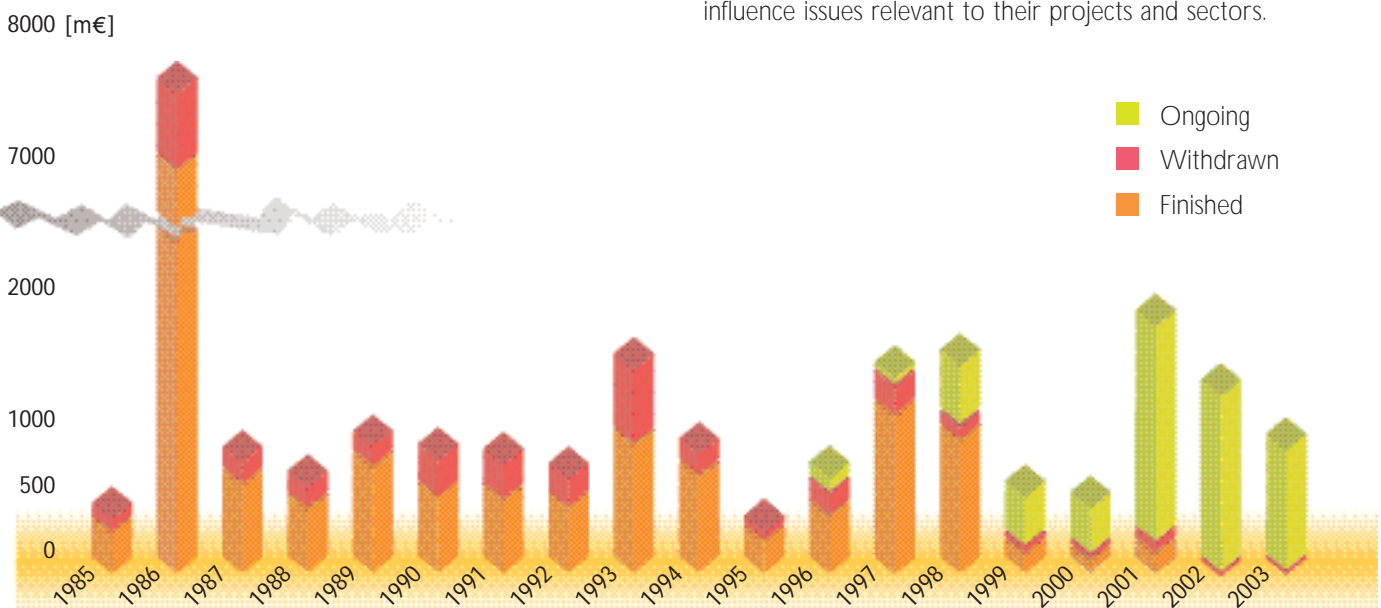
EUREKA helps organisations react quickly to a changing market

Collaboration is a key factor in maintaining a competitive edge and technological advantage over Europe's competitors. Without it, for example, most SMEs simply wouldn't be able to undertake the innovation that is essential to their competitiveness and sheer survival. Pooling ideas, resources and expertise enables organisations to carry out ambitious and larger projects. It also cuts the costs and risk associated with innovation, accelerating the time from drawing board to marketplace.

Project participants appreciate EUREKA's unbureaucratic, hands-off style. It frees them to use their own initiative to formulate, develop and finance R&D projects and retain ownership of the resulting intellectual property rights. EUREKA's way is not to interfere with a project, but to offer help and support when needed. Through its pan-European network the Initiative provides access to expertise, skills, resources and national funding schemes and enables participants to collaborate with the best partners in order to be ready for the market in due time.

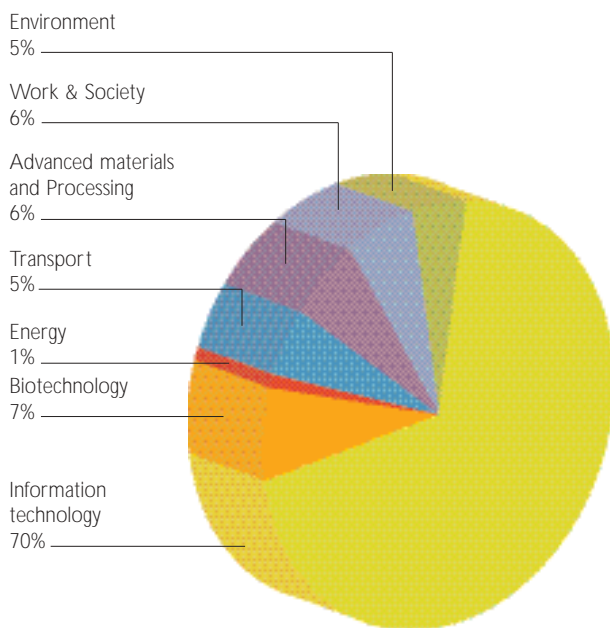
EUREKA offers support when needed

Practical support is provided in several ways. EUREKA's partner search facilities and wide range of networking activities help projects find partners, and vice versa. Regular partnering events on specific technological issues provide excellent forums for promoting the benefits of collaborative research, establishing contacts and discussing ideas which could lead to R&D ventures. EUREKA can advise projects on applying for funding support schemes run by other member countries and facilitates contact with governments so that participants can raise and influence issues relevant to their projects and sectors.



Total committed public and private investment in projects by year [incl. clusters]





Ongoing projects by area in 2003

EUREKA is an internationally recognised label

Projects are widely promoted on the Initiative's database and through various national and European publications, international fairs and exhibitions. Projects bearing the EUREKA label enjoy internationally recognised status, a significant advantage when marketing a product, process or technology and seeking finance from public and, increasingly, private investment sources to fund a project and, the most difficult stage of all, transferring it to the marketplace.

EUREKA projects offer flexible frameworks for collaboration

Cluster programmes

EUREKA's cluster programmes set a practical framework for cooperation and are managed by industry itself. They are longer-term, strategically significant projects aimed at developing generic technologies of key importance for European competitiveness. Deliberately flexible so that they can respond to rapid advances in global technology and changes in market demands, they typically begin with a set of objectives, which are filled in over the ensuing years with scores of individually defined and funded projects and large numbers of participants.

Umbrella projects

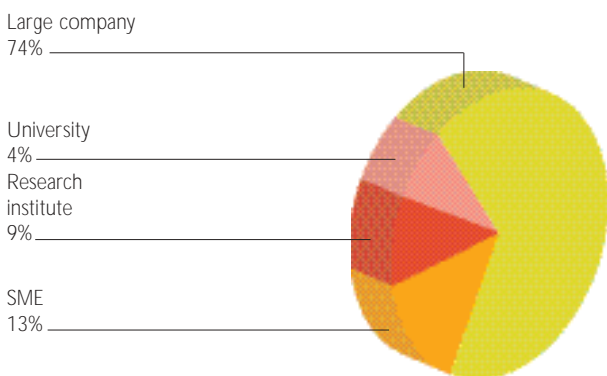
Umbrellas are networks which focus strategically on a specific thematic area of technology, creating pan-European synergies between organisations, networks, etc. Coordinated by a working group of EUREKA representatives and industrial experts, their key objective is to facilitate the generation of individual EUREKA projects in their own target area.

Individual projects

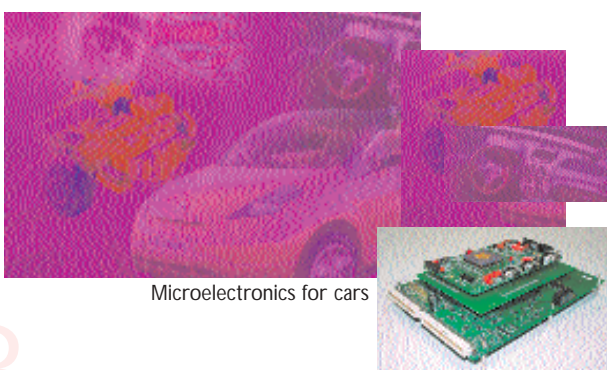
Operating on a smaller scale than cluster or umbrella projects, an individual or single project is originated by a team of two or more organisations sharing a common interest in developing products, processes or services which represent a significant advance in their sector. This category of projects makes it possible for SMEs with limited resources to access their potential for innovation, as well as resources and expertise from other countries.

To achieve competitive advantage, Europe's industries must look to their future to predict and shape new markets and develop the technologies, processes and products necessary to exploit them. This requires companies to set aside their own naturally competitive relationships and work together to identify and foster major, longer-term and strategically significant projects that will be of mutual benefit and key importance to national and European economies.

EUREKA's cluster programmes fulfil this role and offer a demonstrably successful model of the kind of integrated and strategic Europe-wide collaboration envisaged for the ERA. Clusters have a reputation for success and are contributing to strategic technologies across a wide spectrum of sectors, including automotive, health and aerospace. The fact that they make up the bulk of EUREKA's portfolio shows that industry values them. Their market-oriented approach complements industry's own priorities and allows participating companies to determine and manage projects and own the results.



Committed funding by type of participant in MEDEA+



Microelectronics for cars



MEDEA+ System innovation on silicon

MEDEA+, together with its predecessors JESSI and MEDEA, has been a notable success in stimulating Europe's leadership in chip technology with the goal of moving our economies into the information age. Three European companies (Philips, Infineon and STMicroelectronics) are currently ranked among the world's top 10 semiconductor suppliers, while several European process equipment manufacturers set the standards worldwide.

A wide range of cutting-edge applications are currently in development under MEDEA+, including high speed and mobile consumer electronics with multimedia and internet capabilities, automotive electronics focusing on communication and engine management and smart cards for safety and security solutions. The many benefits of European-developed GSM technology are gradually enabling Europe's leadership of the global mobile phone market, while MEDEA-developed systems-on-chips concepts will, in the longer-term, be providing mobile phone network operators with the technology they need to upgrade to the new 3G networks to meet demands for additional capacity and multimedia.

Automotive electronics

Europe's automotive industry is about to set the world standard in designing new electrical and electronic architectures and generic chipsets to support sophisticated telematics and electronics applications in the vehicles of the future. Project A404 SSAE (Silicon Systems for Automotive Electronics) is defining and designing the core modular trans-platform silicon chips required to do the job. The new architecture will give automotive manufacturers a significant competitive advantage by enabling them to provide increasingly sophisticated functionality cost-effectively and in a wider range of vehicles, tailored to a customer's requirements. It is an ambitious project which could help Europe to net a potential 60% share of the silicon market with an estimated value of 3 billion €.

For further information about MEDEA+ visit:
www.medeaplus.org





Future home ambience

ITEA Embedded software solutions

The ITEA cluster stimulates and supports projects designed to give European industry a leading edge in embedded software and software-intensive systems. Europe's leadership in this fast-moving sector is crucial to securing future competitiveness in a wide range of industries, including consumer electronics, telecommunications, avionics, the automotive industry and the health sector.

Ambient intelligence

Representative of the cluster is project AMBIENCE, comprising 19 partners from seven countries, which aims to develop key capabilities needed for the creation of ambient intelligent environments, systems and products. Ambient intelligence refers to an exciting new concept in information technology which empowers people and improves their quality of life by providing a digital environment that is conscious of their presence, and both sensitive and responsive to their needs, habits, gestures and emotions.

To date, the project has generated concepts for these ambient intelligent environments and investigated the architectures, methods and tools required to develop and power them. The project team is currently in the process of integrating the relevant technologies into prototype systems for demonstrating and evaluating home, professional and indoor mobile applications. Systems currently in development include an ambient intelligent home which boasts an interactive personal robot; a smart design studio controlled by a variety of means, including speech and gesture; an intelligent office with the potential for remote linking and office environments which enable the occupants to locate people, places and meetings through the use of intelligent positioning systems.

For further information about ITEA visit:
www.itea-office.org

- France 35%
- Germany 20%
- The Netherlands 17%
- Italy 12%
- Belgium 7%
- Spain 1%
- Finland 1%
- Austria 1%
- Sweden 1%
- United Kingdom 1%
- Portugal 1%



Committed public and private funding to clusters during the Chair year by member on 30 June 2003

Ongoing cluster projects on 30 June 2003

		Value of ongoing projects (m€)
Microelectronics	MEDEA+	2116
Software intensive systems	ITEA	816
Packaging and interconnections	PIDEA	244
Microsystems technology	EURIMUS	114
Recycling electronic components	SCARE	23
Robotics	FACTORY DNA	16
Forest sustainability	EUROFOREST	8

Two other cluster programmes, PIDEA and EURIMUS, also focus on the information technology sector. For further information about these clusters visit their websites at www.pidea.com.fr and www.eurimus.com.

A key objective of the European Research Area (ERA), as envisaged by the European Commission, is greater coordination and cooperation between the national R&D mechanisms. In this respect EUREKA's umbrella projects, given their market-oriented nature, have a valuable and complementary role to play in collaborating with FP6 on large-scale projects with a real European dimension. To this end, the Danish Chair held discussions with the Commission to determine potential areas of collaboration between umbrellas and FP6's integrated projects.



Reclaiming soil

Like the umbrellas, FP6 focuses thematically on specific areas of technology but as yet doesn't cover certain key areas (e.g. in biotechnology, energy and advanced materials) which are, though, of interest to Europe's industrial and research communities. EUREKA's umbrellas offer a ready-made 'opt-in ERA programme' to satisfy their more market-led interests.

E! 1440 FACTORY

FACTORY, one of EUREKA's most prolific and successful umbrellas, is renowned for the rapid transfer of industrial developments emerging from its large number of projects. It focuses on innovative and flexible manufacturing organisations, integrating advanced technology, new materials, human resources, sustainability and the product lifecycle.

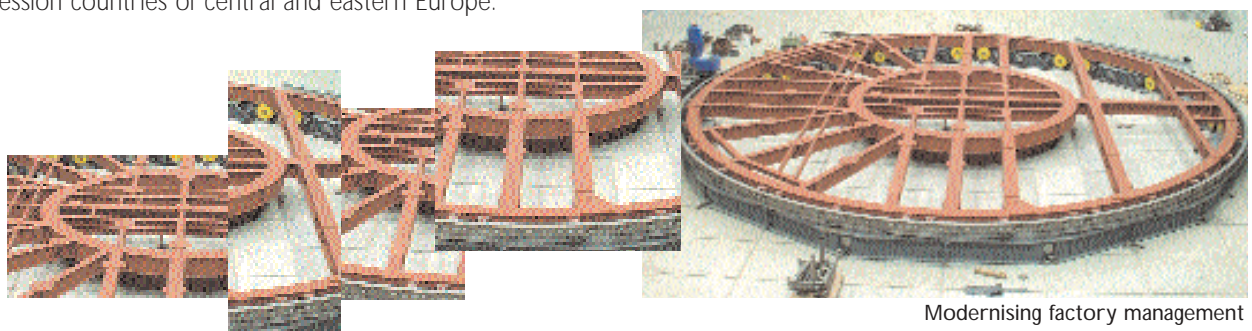
FACTORY is a good example of the growing and increasingly productive collaboration between EUREKA and other European innovation programmes. During the Danish Chair the European Commission invited EUREKA to explore synergies between FACTORY and FP6, to contribute to the revision of the latter's programme in this field and to come up with specific proposals for joint projects. The Commission has also welcomed FACTORY's input into road-mapping the future of European manufacturing and acknowledged, in the context of enlargement, the value of EUREKA's experience in networking with the accession countries of central and eastern Europe.

E! 330 EUROENVIRON

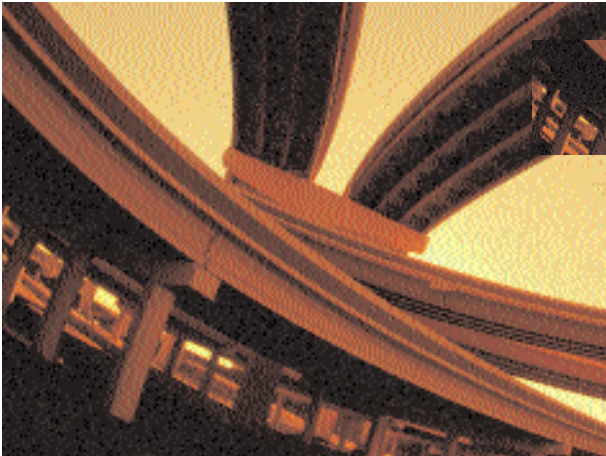
EUROENVIRON is another prolific umbrella targeted at solving some of Europe's major environmental problems. More than 80 projects are tackling specific areas of concern, such as industrial, agricultural and urban waste, air, soil, water and noise pollution, excessive pesticide use, flooding and other environmental catastrophes.

Project **E! 2190 EUROENVIRON REVITAL**, for example, has developed a technique to recycle biological, agricultural and food industry wastes to produce composts which can be used to help decontaminate and revitalise polluted land. The technique is based on the principle that certain crops work with microbes within the compost to break down unwanted hydrocarbons and revitalise the soil; the micro-organisms utilise the pollutants as a source of energy and nutrients. The REVITAL technology has been successfully tested on reclaimed soil from an abandoned coal mine and the project partners are planning to market it to farmers, petroleum processors and owners of mining or industrial installations.

For E! 2190 EUROENVIRON REVITAL:
 Participating countries CZ, HU
 Budget 1.1 m€
 Contact Jan Hruby, hruby@vupt.cz



Modernising factory management



Intermodal transport links in Europe



E! 2402 LOGCHAIN

The LOGCHAIN umbrella's objective is to reduce congestion and wear and tear on Europe's roads by attracting freight onto the railways and inland waterways. Projects focus on developing and optimising the logistic chains between shipper and receiver. The umbrella embraces all aspects of freight transportation in a bid to redesign long-distance freight transport routes, in particular relieving bottlenecks and making use of the spare capacity of underused rail infrastructure.

For example, the sheer scope of **E! 2457 LOGCHAIN E-W-LAND-BRIDGE** is representative of the 11 projects endorsed to date. This ambitious multi-national project aims to establish an inter-modal inland link as an alternative transport route between Slovenia on the Adriatic coast and Germany. Key elements of the project have included collecting data about cargo flow and identifying possible routes for the land bridge, the industry sectors likely to use it and the operational and strategic requirements of the ports at either end. Once the route has been finalised and the infrastructure is in place, it will be a considerable improvement on the 5000 km route freight currently has to take.

For E! 2457 LOGCHAIN E-W-LAND-BRIDGE:
Participating countries DE, SI
Budget 0.44m€
Contact Frank Thyroff, frank_thyroff@wiv.stadt.nuernberg.de

Ongoing umbrella projects on 30 June 2003

Marine technology	EUROMAR
Environmental engineering	EUROENVIRON
Food industry	EUROAGRI+
Environmental performance of electronic products	CARE ELECTRONICS
Conservation and cultural heritage	EUROCARE2000
Industrial production systems	FACTORY
Multimedia equipment	MULTIMEDIA
Sustainable freight mobility	LOGCHAIN
Tourism and leisure industries	EUROTOURISM
Laser technology network	EULASNET
E-learning industry	EUROLEARN

E! 2527 EUROTOURISM

Europe's world-leading position in tourism has been hit in the last couple of years by the increasing popularity of long-haul destinations and a series of recent events, among them September 11th, economic recession and health crises such as the SARS and 'foot and mouth' epidemics.

Strategic initiatives such as the EUROTOURISM umbrella have never been more vital in helping to maintain the global position and profitability of Europe's tourism and leisure industry. EUROTOURISM aims to do so by increasing competitiveness and the quality of the European holiday experience through sustainable development and the application of new technologies.

Since June 2002, the umbrella has been managed by a specially created body, the Madrid-based Consorcio Euroturismo. While the umbrella remains a EUREKA programme, the industry-led Consorcio acts as a conduit between the tourism and technology arenas and determines projects likely to attract European funding. In June 2003, the Consorcio drew up an action plan for 2003-2004 to make EUROTOURISM more widely known to the tourism and technology sectors and encourage them to propose new projects.

For the innovation gap between Europe and its competitors to be closed, not only must our R&D networks make it easier for new, high technology companies to be created, they must also encourage under-resourced and less technically developed SMEs to become an increasing part of the innovation and technology transfer process.

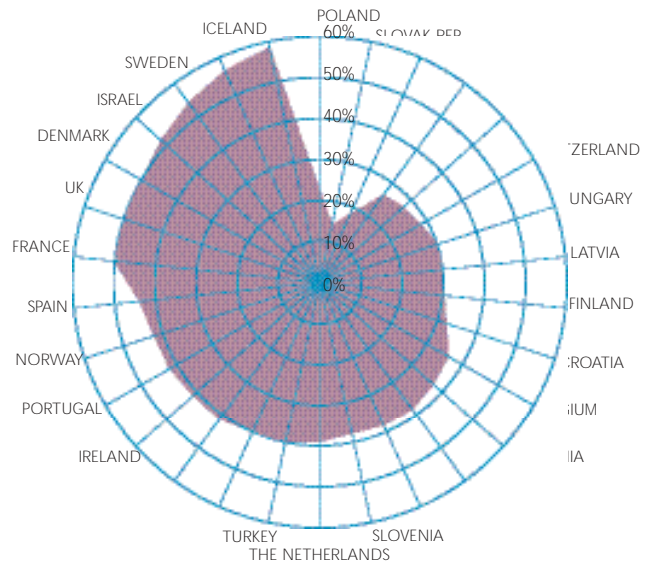
Having a novel idea for a product or process is, arguably, the easy part of innovation. An inability to source and put together the necessary skills, expertise and resources is all too frequently the death of it, so it's hardly surprising that SMEs often find it difficult to actively innovate. Yet they are one of the main pillars of future economic growth in Europe, a fact recognised by the EU in its declared commitment to nurturing the innovation potential of SMEs. 41% of EUREKA's total budget for individual projects is allocated to SMEs.

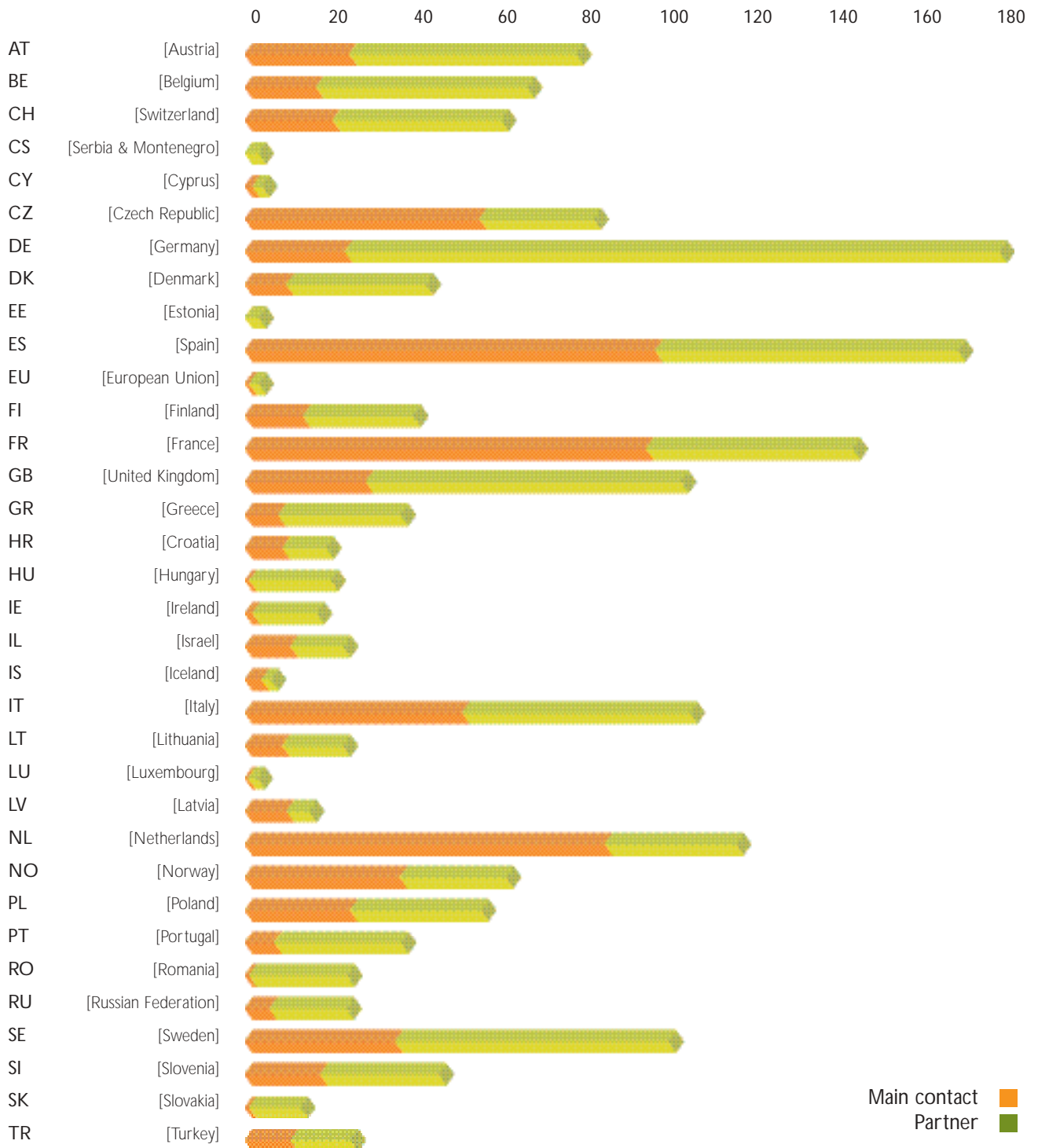
Helping to overcome obstacles to innovation

SMEs are quick to react to changes in the market and have a reputation for innovation and entrepreneurship, despite their traditional lack of resources. This is borne out by their level of participation in EUREKA's individual projects. They generate a high proportion of projects as main partners and account for almost two-thirds of industry representation in projects as a whole.

Undoubtedly, one of the explanations for this impressive level of participation is that EUREKA's individual projects, which form a very responsive part of the Initiative's portfolio, provide the ideal framework for fostering their innovative aspirations. Equally, EUREKA's market-led approach and unbureaucratic way of doing things suits an SME in need of getting new products and innovations to market quickly to maintain competitiveness. EUREKA also enables SMEs to pool resources and share the risks of innovation with other like-minded enterprises and provides them with crucial access to market intelligence, technology transfer, networking opportunities, potential customers and an international platform.

SMEs have become prime targets for European programmes and the ERA is keen to see them integrated into even larger projects in order to foster their growth. For this to happen, EUREKA and Europe's other R&D initiatives must do more to synchronise and signpost their services so that SMEs - and all customers - have quick, one-stop access to information and support.





Number of ongoing individual projects by member in 2003

Project activity during the Danish Chair

- 168 new projects were launched with an estimated value of 398 m€ and the participation of 580 organisations. This brings the total number of ongoing individual projects in EUREKA's portfolio to 730 with an average value per project of 2.8 m€.
- Two-thirds of the organisations participating in projects are from industry and 41% are SMEs.
- Notable trends in the technological sectors include a decrease in the number of biotechnology projects from 21% to 17%. However, new initiatives in this sector take considerable time to set up. A number of proposals are in the pipeline and will be endorsed in coming years. On the other hand, the number of information technology projects is up from 25% to 28%.

- Some countries such as Slovenia, Lithuania, the Czech Republic, Poland, Latvia and Croatia have announced a very encouraging number of new projects in relation to their GDP. These countries match the level of involvement of older members, thereby showing that they opt for EUREKA efficiency in preference to other means of innovation support.
- Most of the new projects were bi- or trilateral collaborations covering a wide variety of areas such as biology, robotics, new materials and tools, transport and the environment.



Renewable energy from waves

E! 2278 WWEC – harnessing wave power

The world's oceans hold one of the keys to our future and sustainable electricity needs, but their potential for producing power has yet to be effectively exploited. EUREKA project WWEC brings the harnessing of this renewable energy source a major step forward with the development of a device that generates energy from the sea as easily as a wind turbine does on land.

The project team's objective was to develop a commercially licensable technology that could be deployed in large arrays far out to sea where waves have much more power. Wavebob, as the device is called, floats loosely moored, largely below the water surface, and converts the energy of ocean waves into electricity. The technology is based on oscillating heaving buoys, but does not require large reaction weights, massive plates or rigid attachment to the sea bed.

Until now such devices have had serious problems coping with the often violent extremes of waves and weather. In a significant technological breakthrough, the WWEC partners have come up with practical and low cost solutions to these problems, enabling Wavebob to recover power from big waves and to be fully tuneable to varying wave frequencies and heights as weather conditions change.

Participating countries IE, NO, UK
 Budget 0.5 m€
 Contact William Dick, william.dick@clearpower.ie

E! 2255 RISURSIM – preventing city flooding

Water management is an expensive business, but dealing with the aftermath of a flood is far costlier. When urban drainage systems can't cope with excess water levels cities, businesses, homes and insurance companies are faced with a huge clean-up bill.

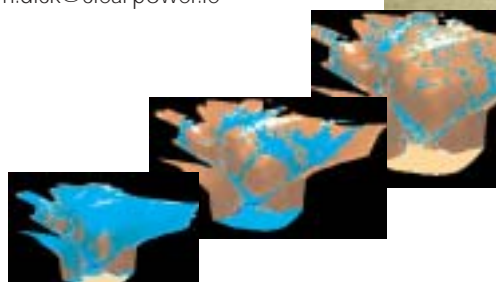
A flood management system developed by project RISURSIM will soon enable local authorities to monitor and minimise the costly impact of flooding on their communities. The Norwegian, German and Italian partners have taken drainage simulation above street surface into account for the first time by using computers to model the interaction between surface run-off and the drainage and sewer systems. Prior to RISURSIM, researchers hadn't been able to successfully couple surface and sewer flow in a forecast model. The interdisciplinary nature of the project, which comprised engineers, mathematicians and computer modellers, provided the expertise to map numerical algorithms into computer codes to define the flow problems.

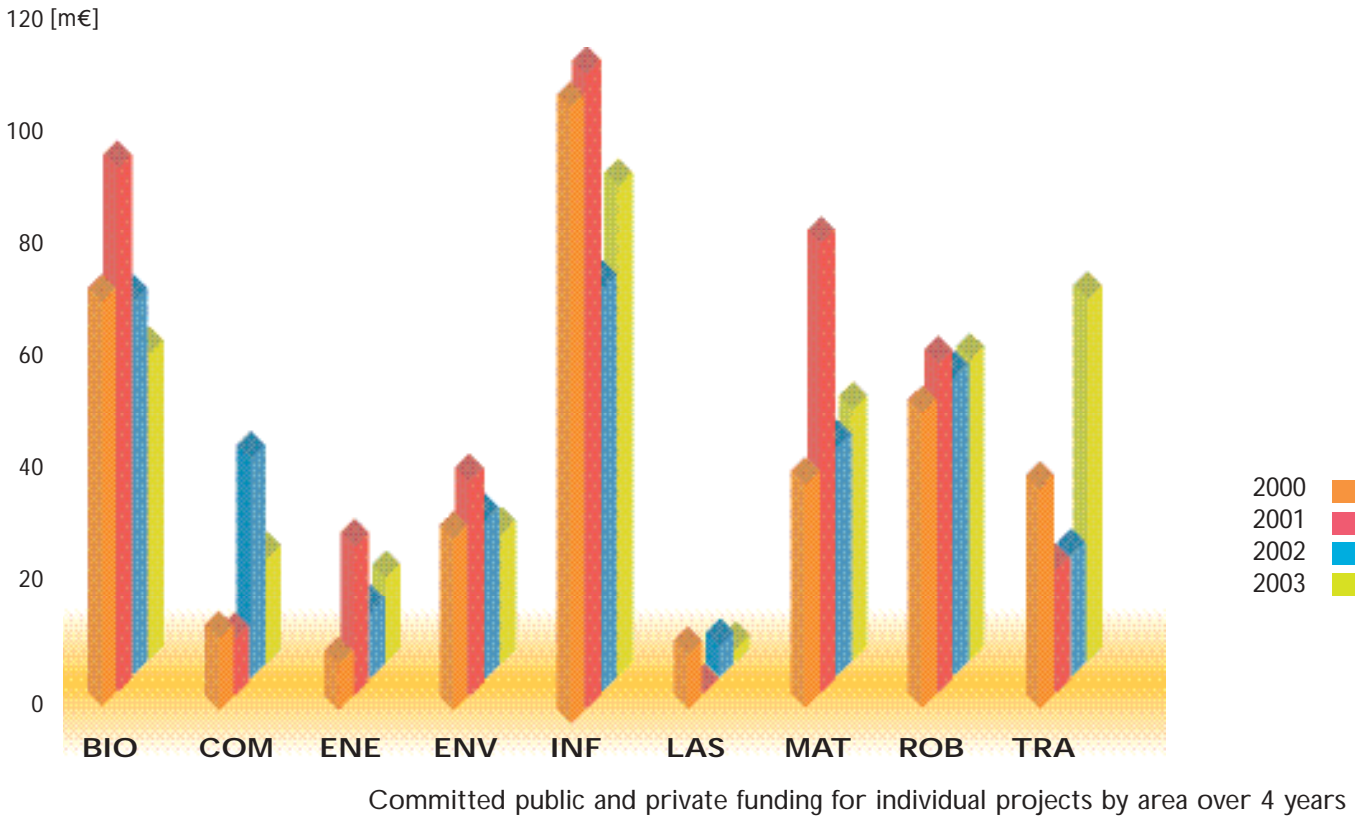
By seeing floods happen on screen, local authorities can manage their sewer networks more pro-actively, city planners can determine safe places for new development and insurers will be able to assess the flood risks of different districts and even streets.

Participating countries DE, IT, NO
 Budget 1.6 m€
 Contact Dr Klaus-Peter Nieschulz, nieschulz@itwm.fhg.de



Prévention des inondations





BIO Medical and Biotechnology COM Communication Technology ENE Energy Technology ENV Environment Technology INF Information Technology LAS Laser Technology MAT Materials Technology ROB Robotics and Production Automation TRA Transport Technology

E! 2254 BLUESPOT – electronic data storage solutions

The past decade has seen an explosive growth in the optical memory industry. In 1998, around 200 million optical drives were shipped and more than 10 million disks were pressed, generating a worldwide business of more than 13 billion US dollars. In the same period, the storage capacity has leapt from 0.65 Gbytes for a CD to 4.7 Gbytes for a DVD. Project BLUESPOT is taking this even further in a bid to make the European multimedia industry more competitive than its American counterparts.

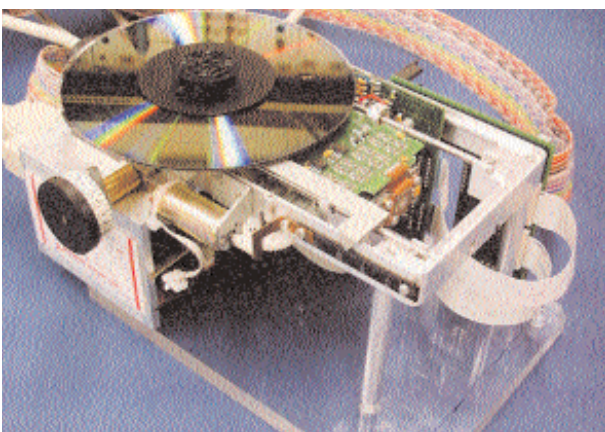
BLUESPOT is creating a new drive that uses a blue laser diode to access single or dual layer disks with 40 Gbyte capacity, leaving no doubt that rewritable optical disk recorders will replace VCRs in the coming years. This means more music, more data or more video on each DVD. It is also anticipated that even a two-hour HDTV film, which has twice the picture resolution of analogue, will fit onto a single disk.

BLUESPOT builds upon the experience of a previous EUREKA project, E! 1505 REMOD, which developed technology to write to multi-layer DVDs. Since its launch in 2002, BLUESPOT has made excellent progress, according to the German and French partners. The next stage is to push each component system further to reach the necessary performance and storage targets.

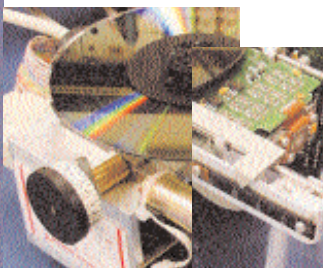
Participating countries DE, FR

Budget 20 m€

Contact Dr Hartmut Richter, richterh@thmulti.com



Rewritable DVD with increased storage capacity



E! 1924 CARDS – the virtual test drive

Today's demanding car buyers place a heavy burden on manufacturers to constantly innovate. However, building prototypes to test innovative car designs is a lengthy and expensive process, and one that companies keen to retain their competitive edge can ill afford. With contemporary simulation systems often falling short of R&D expectations, the eight-company-strong team of project E! 1924 CARDS (Comprehensive Automobile Research and Development Simulator) set out to design a superior driving simulation system.

Comprising a head-mounted display unit (HMD) that uses software developed for driving simulation, a motion platform and a vibration seat, the simulator allows car manufacturers to perform virtual prototyping of their R&D innovations and test people's perceptions of the new design. The HMD incorporates a sensor that monitors the position and rotations of the user's head, so that the image inside the unit changes with the car's simulated movement. Unlike most virtual simulators, the HMD developed in the CARDS project has a large field of view and high resolution. It is also light, weighing less than one kilo.

CARDS has completely and very realistically 'virtualised' the driving experience - right down to the revving of the engine. Soon European car manufacturers will be able to test new car designs quicker, cheaper and more effectively than ever before.

Participating countries FR, NL, NO, TR, UK
 Budget 4.1 m€
 Contact Dr Andras Kemeny, andras.kemeny@renault.com

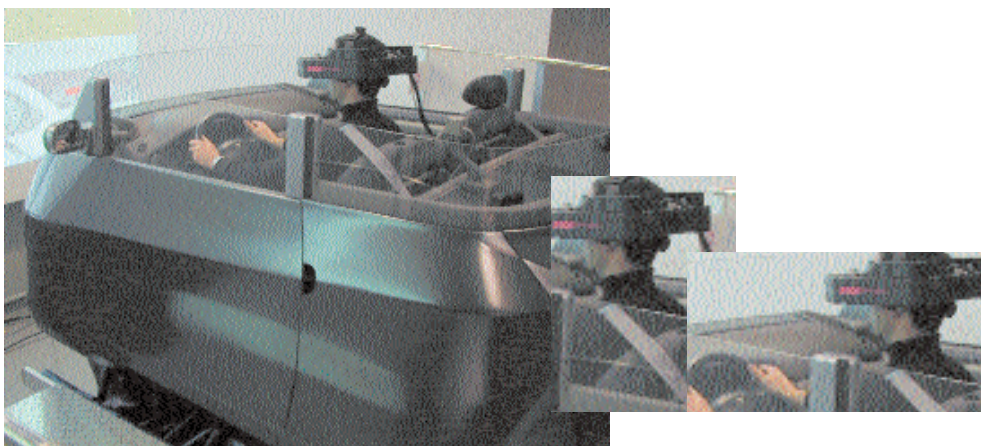


Car navigation system

E! 55 CARMINAT – clever navigation in the city

The CARDS partners collaborated in a previous project, E! 55 CARMINAT. In 1986, the alliance of car and component manufacturers addressed the challenges and hazards of drivers' safety. Over six years, they worked together to develop a car navigation system which now, ten years later, is being implemented in a wide range of cars. With increasing traffic on the roads, the system helps the driver to navigate more safely.

Participating countries FR, NL
 Budget 49 m€
 Contact Ms Anh-Sara Phung-Cong, anh-sara.phung-cong@renault.com



Test drive simulator

E! 2633 NEMTEC – from fundamental research to a private investor's dream

One of EUREKA's key objectives is to generate projects that attract the attention of private sector funding, accelerating their journey to the marketplace. NEMTEC is a prime example of the value of this approach.

Current LCD technologies tend to be high in power consumption and relatively low in optical quality. Soon, though, LCD screens will be featuring BiNem[®], a new liquid crystal technology which boasts higher quality displays and reduced power consumption, all for the same cost. An e-book, for example, will be able to run for several months on a single AA battery.

The BiNem[®] principle was initially developed by the French National Research Centre. Realising the potential size of the market - estimated at 6 billion US dollars with a potential growth of 25% per annum - and following interest from manufacturers such as Nokia and Sony-Ericsson, start-up company Nemoptic S.A. was launched in 1999 to develop the technology further and adapt it for mass production.

This crucial stage was carried out in 2002 by project E! 2633 NEMTEC in partnership with an Italian manufacturer of LCDs, Tecdis S.P.A. A new polymer was developed for the screens to optimise their optical performances while facilitating the manufacturing process, key factors for global competitiveness. The partners have successfully adapted the technology so that it can be incorporated into a manufacturer's existing production process.

Markets targeted for the BiNem[®] technology are hand-held devices such as mobile phones, PDAs, e-books and smart cards. Manufacturers are excited by the competitive advantage it offers their products and they aren't the only ones. Nemoptic has recently received 12 m€ from private investors to complete BiNem[®]'s transfer to the mass production lines.

Participating countries FR, IT
Budget 4.15 m€
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High resolution, low consumption LCD screen

2002

October

- 'Building the digital future' is the theme of ITEA's 3rd Annual Symposium in Amsterdam, the Netherlands. 250 European software experts and ICT policy-makers debate the challenges of digital transition and view an inspiring exhibition of 30-plus projects. Project ITEA 99007 PEPiTA wins the ITEA 2002 Achievement Award.



- The Initiative publishes the EUREKA Information Booklet on Private Finance to help technology-oriented companies, especially SMEs, to understand and access private funding.



April-May

- The Danish Chair joins forces with the European Federation of Pharmaceutical Sciences to hold a workshop to stimulate Europe's competitiveness in the biotechnology sector. Its objective: to identify strategic research projects and organisational initiatives most urgently required to bring about faster drug development and approval, with the potential of combined financing from EUREKA and the FP6.



November

- The two-year-old MEDEA+ programme presents its achievements to date at the MEDEA+ Forum 2002 in Antwerp, Belgium. The forum calls for European governments to match the microelectronics industry's commitment to R&D by providing incentives similar to those enjoyed by competitors in the US, Taiwan, etc.



- The Kingdom of Morocco becomes the first country to be awarded Associated Country status by EUREKA. The new affiliation was initiated under the Spanish Chairmanship as part of EUREKA's strategy to enhance co-operation with countries in the Mediterranean judged to have scientific and research potential.



2003

March

- With flood prevention high on the agenda for many European cities, EUREKA project E! 2255 RISURSIM's timely computer model for planning urban water management attracts visitors at CeBIT 2003, the world's biggest IT and communications fair. EUREKA clusters and umbrellas presenting key projects include EURIMUS, CARE, EULASNET and EUROLEARN.



- EU Research Commissioner Philippe Busquin publishes a new action plan proposing a number of key measures to help increase the average research investment level in the EU from today's 1.9% of GDP to 3% by 2010. The plan highlights the importance of instruments such as EUREKA in achieving this ambitious target. (Reference: COM(2003) 226)

June



- For the first time in its history, EUREKA appoints two senior industrialists, Jean-Paul Jacamon (l) and Michel Vieillefosse (r), as High Level Group Chairman (French Chair) and Head of the Secretariat, respectively - a welcome move that brings industry closer to the decision-making process. And it's farewell and EUREKA's thanks to Heikki Kotilainen, outgoing Head of the Secretariat, for his contribution to the Initiative during his four-year tenure.



- The 2003 EUREKA Lynx Award, which honours fast-growing enterprises that have turned a EUREKA project into a marketplace success, is won by French company Genolife SA. The award is

in recognition of its test for genetic toxicity which enables pharmaceuticals and cosmetics companies to develop safe products and treatments faster and more cheaply.

- The 2003 EUREKA Lillehammer Award for an outstanding environmental project is awarded jointly to two projects: E! 417 EUROMAR MERMAID, a remote-controlled system for monitoring ocean and river pollution, and E! 938 POLADIA, unique software for onboard car engine computers which alerts drivers of malfunctions and increased exhaust emission levels that need fixing.



- EUREKA's Project Assessment Methodology (PAM) is given the go-ahead. A network tool developed for the common and transparent assessment of projects, this will enhance the EUREKA label as a guarantee of project quality and thereby help to attract private funding.



- The 2nd EAST-WEST Innovation Forum takes place in Warsaw, Poland, with the theme 'Floods: Danger, Strategies and Solutions'. R&D organisations, local authorities and insurance companies gather together to collaborate on strategies and new technologies to minimise the costly impact of flooding.
- Secretariat Head Michel Vieillefosse presents his three-year strategic plan to make EUREKA a European-wide focal point and the easiest support organisation for all markets to do business with by 2005 – the Initiative's 20th anniversary.



- The XIVth Interparliamentary Conference concludes the Danish Chair Year with the theme 'Building an Innovation Policy for Europe'. During the year, 168 new individual projects were launched with an estimated value of 398 m€, and the highest priority was given to streamlining EUREKA's organisation, decision-making process and programmes to further the Initiative's future development.



