

RESEARCH

From 2002 to 2006, the Sixth Framework Programme (FP6) was the EU's main instrument to promote and support R & D in Europe. This five-year programme has a total budget of EUR 17.9 billion. The bulk of the budget goes to the 'thematic areas' — that is, those areas where the EU in the medium term intends to become the most competitive and dynamic knowledge-based economy in the world. Research-performing SMEs are encouraged to take part in the 'thematic areas' and 15 % of the budget (approximately EUR 1.9 billion) is dedicated to them. In addition, EUR 473 million are earmarked specifically for SMEs in need to outsource research.

From 2007 onward, European research will get an even greater boost. The total budget for the new seven-year Framework Programme for research (2007–13) has already been agreed: EUR 53.2 billion for supporting scientific and technological excellence in Europe. A similar 15 % target for SME participation will most likely apply — the indicative budget for the SME specific actions in the Seventh Framework Programme (FP7) is around EUR 1.3 billion.

This section looks at some of the EU's projects for SME research funded under FP6, as well as web services and contact points for innovative SMEs.

Research projects for research-performing SMEs

STREPs: a perfect match for SMEs

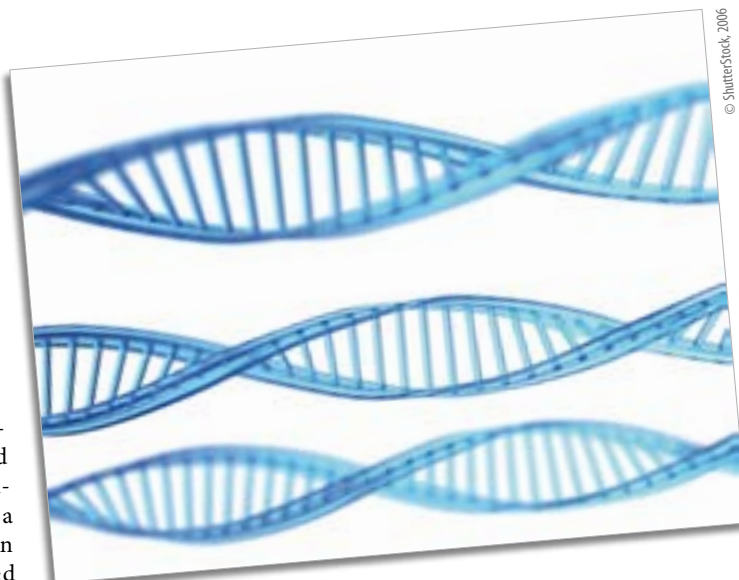
Specific targeted research projects (STREPs) are EU-funded consortia which bring together various research partners from across business and academia.

A typical STREP consortium comprises universities, research institutions, and enterprises of all sizes, including SMEs. These consortia are usually comprised of between 6 and 15 participants, with EU funding typically between EUR 0.8 million and EUR 3 million and a project duration of between 18 and 36 months.

In contrast to the multi-objective and more multi-disciplinary approach of larger Integrated projects (IPs), STREPs focus on specific research objectives with clear and exploitable outputs that can be brought to the market quickly — this narrower scope makes it easier for SMEs to manage their

participation in a STREP.

The knowledge gained from participating in a project can be exploited for commercial advantage. Other benefits include acquiring a wider network of business and research contacts and keeping abreast of the latest developments in the company's specific field.



For more information and to find a project, please visit the CORDIS FP6 website: <http://cordis.europa.eu/fp6/projects.htm>

The brochure 'SMEs in STREPs under FP6' can be downloaded from the following website: <http://sme.cordis.europa.eu/about/downloadable.cfm>

Integrated projects: an impetus for change

In order to have a positive impact at European level, IPs are designed to assemble the critical mass of expertise and resources necessary to achieve ambitious scientific and technological results.

An IP's activities not only include research, but also technological development, demonstration, promotion, training, and knowledge management and transfer. IPs were introduced for the first time under FP6. They are seen as the 'knowledge production engines' required to meet the

research objectives of the programme's priority thematic areas.

The projects normally run for between three and five years, and tend to be on a larger scale than earlier EU-funded research projects. Total project budgets of over

EUR 20 million are not uncommon, while consortia regularly include 20 or more partners.

For high-tech SMEs involved in project consortia as research performers with their own specialised technology or know-how, IPs often provide a springboard for the launch of new products or services, or for the internationalisation of their market presence.

For more information and to find a project, please visit the CORDIS FP6 website: <http://cordis.europa.eu/fp6/projects.htm>

The brochure 'How to join a running IP' can be downloaded from the following website: <http://sme.cordis.europa.eu/about/downloadable.cfm>

Networks of Excellence: propelling European research to the top

Strengthening scientific and technological excellence across Europe can only be achieved by bringing together the right expertise at EU level — this is where the Networks of Excellence (NoE) come in.

NoE aim to overcome the fragmentation of European research by gathering the critical mass of resources and expertise needed to provide European leadership. While an IP project aims to solve a particular problem in a specific scientific area, NoE projects generally aim to strengthen scientific and technological excellence on a particular research topic. They include a training component and run for up to seven years.

Participants may be research entities such as research centres, universities, enterprises — including SMEs — and research and technology organisations. The joint programme of activities (JPA) is the collective vehicle for achieving the objectives of the network. It consists of a coherent set of new or redesigned activities that the participants undertake jointly. The intellectual property rights (IPR) remain with the participants of the project.

For more information on the Intuition network, please visit:
<http://www.intuition-eunetwork.org>

For more information on NoE, please visit:
http://cordis.europa.eu/fp6/instr_noe.htm



Virtual reality in the workplace

Intuition is a NoE focused on virtual reality (VR) and virtual environment applications for future workspaces. It is funded by the EU under the FP6 thematic area 'Information society technologies' (IST). The network includes 60 partners and is being coordinated by the institute of communication and computer systems of the National Technical University of Athens in Greece.

VR technology has started to be used to a great extent in industrial applications. The technology, however, has so far suffered from a lack of organisation and long-term vision. A key objective is to encourage the adoption of virtual environments in industrial

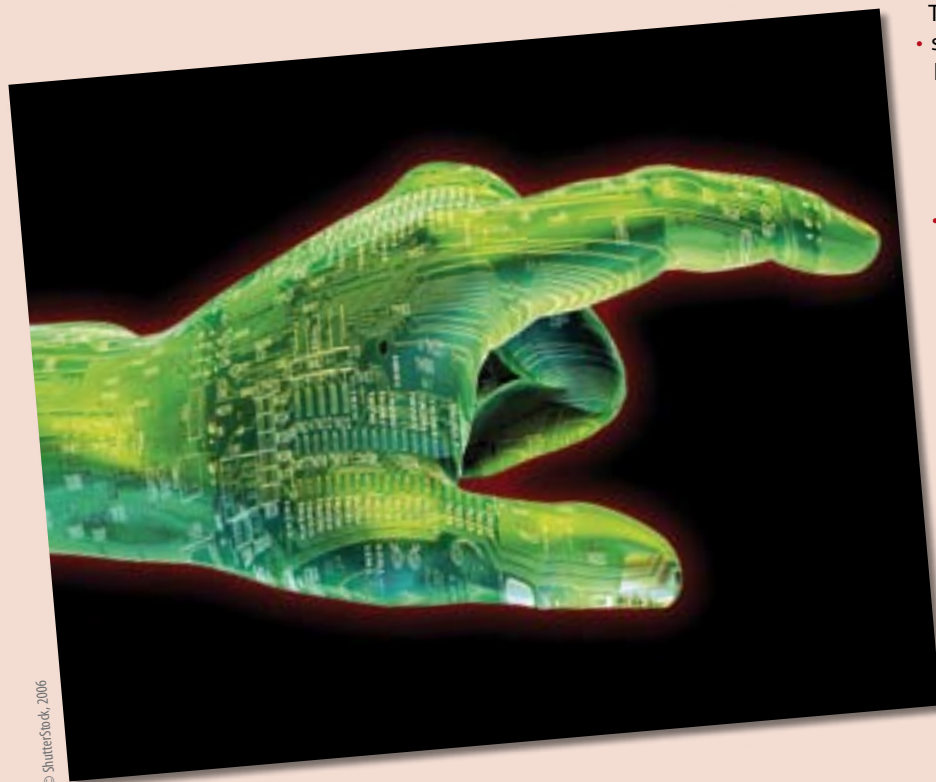
processes, and assess the extent to which they are spreading into the workplace and everyday life. Their impact on the actual working environment must also be assessed.

While VR technology is still a rapidly evolving and diversifying field, the massive R & D process has reached a point where pan-European structuring and integrating effort are an absolute necessity. One of Intuition's targets is to overcome the fragmentation that has widely been observed and bring about lasting integration in the European area.

The Intuition network aims to:

- systematically acquire and cluster knowledge on VR concepts, methodologies and guidelines, to provide a thorough picture of the state of the art and provide a reference point for the development of future projects;
- perform a review of existing and emerging VR systems and virtual environment applications, and establish a framework of relevant problems and limitations to be overcome;
- identify user requirements and wishes as well as promising new application fields for VR technologies.

The project has been divided into 10 working groups in the following areas: aerospace, augmented reality, automotive and transport, constructions and energy, engineering design, entertainment and culture, evaluation and testing, education and training, haptic (or tactile) interaction, and medicine neuroscience.



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ETI projects for SMEs: helping SMEs take part in FP6

For small companies wishing to take part in FP6's mainstream research projects, economic and technological intelligence (ETI) projects are a stepping-stone to getting involved. The scheme also improves SMEs' access to scientific and technological information.

ETI projects typically last for three years, with a total budget of EUR 1.5 million. Dozens of ETI projects are currently running across the EU.

The projects build bridges between SMEs, researchers, entrepreneurs and investors: they are not run by SMEs themselves, but by intermediary organisations with good access to dissemination routes, such as SME

national contact points, industrial federations, networks or associations of research performers, professional associations, chambers of commerce and so on. These bodies are responsible for creating an environment more conducive to new ideas through the EU and help create innovative technology-based research initiatives.



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For more information, please visit the CORDIS SME TechWeb website:
http://sme.cordis.europa.eu/economic/eti_projects.cfm

The brochure 'Economic and Technological Intelligence' and the folder 'ETI projects', Volume I and II can be downloaded from the following website: <http://sme.cordis.europa.eu/about/downloadable.cfm>

Keeping up with the latest trends

The fashion industry contributes strongly to the European economy, providing employment for about 3 million people. However, SMEs throughout the industry need to undergo dramatic innovative change if they are to compete successfully on a global scale.

Fashion Net, an ETI project, aims to make it easier for SMEs in the sector to access EU research projects. It also plans to encourage transnational innovation and technology transfer among SMEs operating in the fashion business. The scheme is intended to strengthen the various networks in which expertise and best practice are exchanged, helping in turn to boost the competitiveness of small companies.



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The project ranges greatly in scope, covering all types of businesses from design to the production of clothing materials of all kinds. It is also aimed at SMEs involved in associated activities, such as supply-chain management and business development. Its main targets are those SMEs that are already innovative to some degree — roughly half of the total involved in the fashion business.

There are many reasons why SMEs can benefit greatly from Fashion Net. Firstly, they are generally understaffed and therefore do not have the human resources necessary to invest in innovation. Secondly, it is difficult for innovative SMEs to obtain information about potential research partnerships and how they might gain access to them. Intermediary organisations can help greatly by taking their innovative ideas and formalising them in proposals for specific transnational collaborative projects.

The Fashion Net project is being carried out by 16 partners in 8 countries — the Czech Republic, France, Greece, Italy, Lithuania, Romania, Spain and Turkey. At the core of the project is a network of SME intermediaries — industrial associations, research organisations and NCPs, as well as clusters of SMEs.

An information campaign is planned, targeting 4 500 SMEs. This is being implemented through two conferences, eight innovation workshops and eight training sessions. Moreover, 155 technology audits and a number of best practice cases will be collected throughout the project. The actions of SMEs will also be integrated and coordinated once they have joined up to an FP6 project proposal.

Although the Fashion Net contract finished in April 2006, a new ETI contract 'Fashion to Future' was awarded to a consortium made up of three ETI projects: Fashion Net, ITE (based on intelligent textiles) and SHOES 5000 (based on footwear components). The aim is to increase the competitiveness of SMEs in the fashion sector through simplified access to research and innovation results. Although it is an FP6 project, it also promotes the participation of SMEs in FP7.

Cooperative research projects: supporting innovative SMEs

For innovative SMEs without their own research capabilities, cooperative research projects bring together smaller players from different countries with a specific research objective or need. FP6 places a strong emphasis on this kind of SME support and has set aside about EUR 320 million.

A large part of the research work required is assigned to so-called R & D performers: universities, research centres or technological institutes. Ownership and IPR, however, remain exclusively with the SMEs.

Tightly focused on short-term industrial requirements, the projects may address any relevant scientific or technological research topic. They last no more than two years and have overall EU funding between EUR 0.5 million and EUR 2 million.

Two types of activities are eligible for funding under the scheme — research and innovation-related activities, and consortium management activities.

- Research and innovation-related activities: these can include any science and technology topic based on well-defined and clearly focused research objectives leading to concrete results. The planned outcome should be applicable knowledge that will

either improve upon or develop new products, processes or services — or meet the needs of other SMEs. Innovation-related activities should also promote the exploitation of results.

- Consortium management activities: this covers the overall coordination costs relating to the project and includes managing the consortium agreement, addressing the overall legal, contractual, financial and administrative aspects as well as coordinating knowledge management and other innovation-related activities at consortium level.

For more information, please visit the CORDIS FP6 website:
<http://cordis.europa.eu/fp6/projects.htm>

The brochure 'Co-operative Research' and the folder 'Co-operative Research projects for SMEs', Volume 1 and 2 can be downloaded from the following website:
<http://sme.cordis.europa.eu/about/downloadable.cfm>

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Safe blood for hospitals

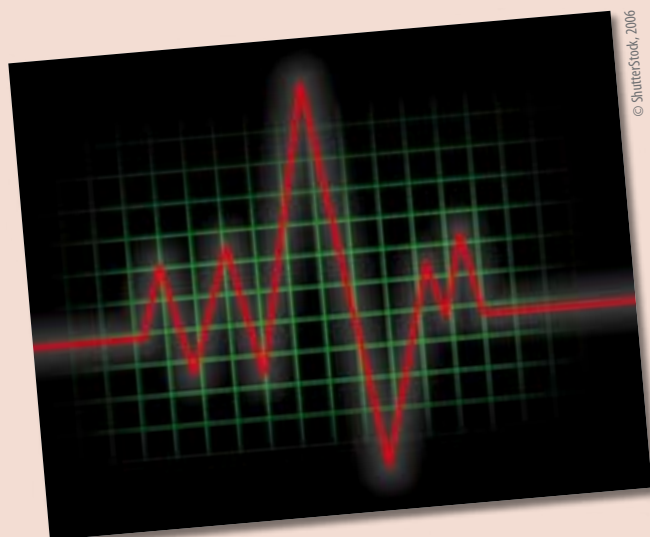
The Rastud project, carried out by three SMEs, addressed the problem of ensuring total safety of blood products. Blood centres

and hospitals are always in search of donors to guarantee a constant supply of blood, and a fast and accurate means of analysing the blood must be found in order to screen for bacteria.

With the cooperation of universities, the Rastud project formed an R & D network in order to create a machine that can detect bacteria in blood quickly and efficiently. Many hundreds of blood centres and many more hospitals in Europe will benefit from this project — there is an enormous market for the machine, worth some EUR 7 billion worldwide.

Rastud demonstrates the way in which cooperative research projects bring benefits both to SMEs and research institutes. Under the scheme, universities offer concrete solutions to business, and they have an opportunity to broaden their own knowledge and to create new technologies that can be used by other companies.

The EU contributed EUR 773 000 to the financing of Rastud, which had a total budget of EUR 1 402 000.



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Collective research projects: exploiting R & D results

Thanks to collective research projects, large communities of SMEs can expand their knowledge base through R & D on widely-shared technological, environmental, safety or standards issues.

Just like cooperative research, collective research activities are assigned to so-called R & D performers — that is universities, research centres or technological institutes. They carry out work for industrial associations and groupings representing SMEs, in order to improve the overall competitiveness of large communities of SMEs and SME-intensive sectors.

Moreover, collective research projects usually run longer, and are larger in size, than cooperative research projects. Their typical duration is between two and three years, and they benefit from overall EU funding between EUR 2 million and EUR 5 million.

Every collective research project includes a 'core group' of SMEs who are involved in all aspects of the project, from the initial research concept through to the dissemination of the final results. Activities cover research and innovation-related work, consortium management tasks and training activities — particularly the training of SME managers and technical

staff regarding the new knowledge generated by the project.

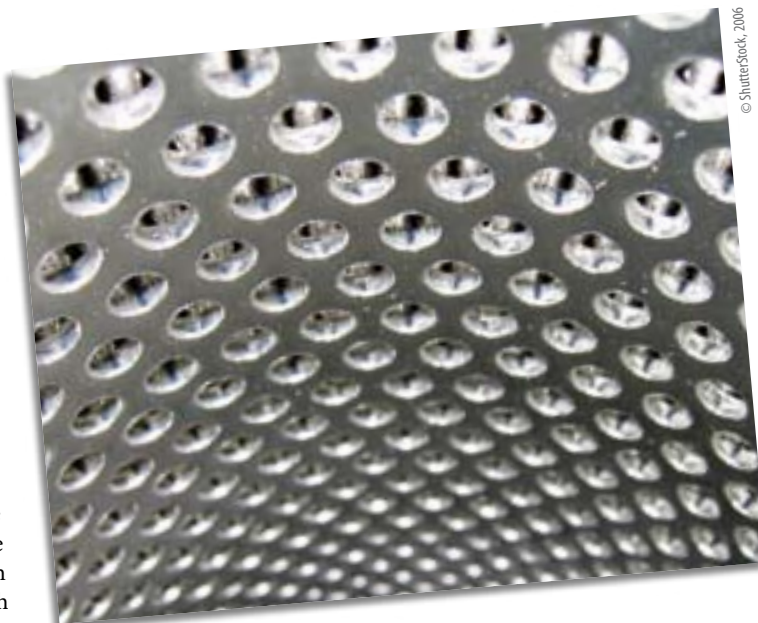
As Europe-wide initiatives, these projects aim to:

- reinforce the technological basis of sectors;
- develop 'technological tools', such as diagnosis methods, safety equipment, etc.;
- find solutions to common challenges such as fulfilling environmental performance criteria, meeting regulatory requirements, achieving workplace safety standards; and
- carry out pre-normative research to help set European norms and standards.

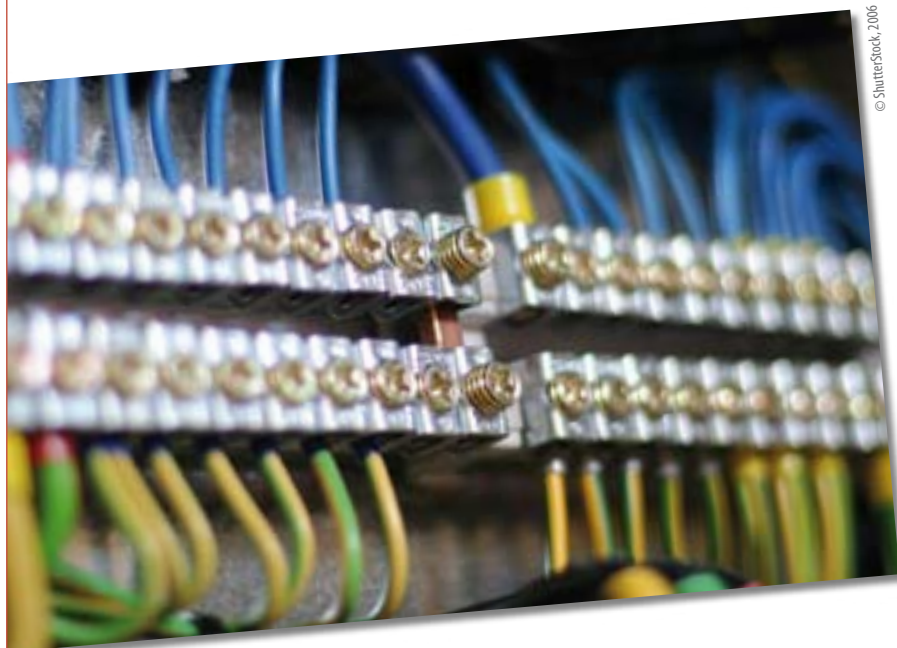
The project's IPR belong exclusively to the contracting industrial associations and groupings.

For more information, please visit the CORDIS FP6 website:
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The brochure 'Collective Research' and the folder 'Collective Research projects for SMEs', Volume 1 and 2 can be downloaded from the following website:
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Faster tools for better business

Tool-making — a sector consisting mainly of SMEs — has a turnover of EUR 11 billion. As manufacturing tools for plastic injection moulding is a labour-intensive process, the automation of existing production will be essential for these SMEs to remain competitive. With a total budget of EUR 3 516 000 (of which EUR 1 757 000 contributed by the EU), the Fastool project has sought to address these challenges by installing low-cost automation into workshops.

Fastool has brought together industrial associations from Germany, Spain, the Netherlands and the United Kingdom to carry out this collective research project on behalf of their members.

In the Netherlands the trade association represents 120 SMEs, in Germany 180, in Spain 209 and in the United Kingdom 299; their role is to disseminate knowledge on best practice techniques to the SME community. The R & D network also stretches across these four countries.

The benefits are plentiful, and are helping to keep tool manufacturers in Europe. They include a reduction in programming time of up to 95 %, an improvement in graphite machines, a reduction in labour costs by extending the working day, and an increased utilisation of expensive equipment.