

May 2007

The EU and Research & Innovation

Promoting Growth through Scientific Endeavor,
Technology Development, and Cooperation

"If our businesses are to remain competitive in the global marketplace, if we are to face up to challenges such as climate change, or the aging of our population, then we need to know more and be better... Our best hope for keeping one step ahead of the rest of the world is our brain power."

European Commissioner
for Science and Research
Janez Potočnik



Since the earliest days of European integration, scientific research and technological development—and their successful translation into the marketplace—have been important to the European Union. In today's world, where the link between economic growth and science and technology is so close, EU policy in this area has come center stage.

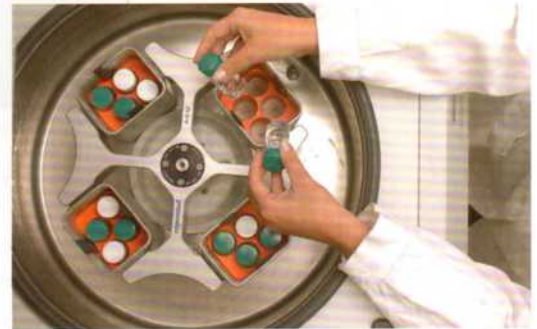
The Lisbon Strategy

The EU has laid out a plan to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social equity. Known as the Lisbon Strategy, the plan relies heavily on the "knowledge triangle"—research, education, and innovation.

European Research Area

Realizing a long-sought aspiration, the EU launched the European Research Area (ERA) in 2000. The ERA puts the continent's best minds together and encourages researchers to pool their efforts, concentrate on excellence, and work toward common goals.

Just as the EU's Single Market allows for the free flow of goods, services, people, and capital, the ERA enables scientists to work and cooperate on projects throughout the EU, promoting achievement of a "critical mass" in research efforts not possible at the individual country level.



To further boost competitiveness, EU Member States have agreed to commit at least three percent of GDP on R&D by 2010, up from the current level of 1.3 percent. The EU also recently launched the European Research Council, the first pan-European funding entity for cutting-edge, researcher-driven work.

The 7th Research Framework Program and the "CIP"

The EU's latest research "framework program" is directing more than €54 billion in funding from 2007–2013 toward a common research program. A small percentage of the R&D funding expended by the 27 EU Member States, research framework program monies leverage the strength of the Union by providing direction, priorities, and seed money for national-level research. Framework program activities advance scientific discovery and knowledge, and ultimately boost economic growth while also providing the scientific underpinning for EU policy in many areas.

With an eye on promoting entrepreneurship and smaller enterprises, the EU has launched an initiative to help make the link between EU research activity and business. The Competitiveness and Innovation Framework Program (CIP) promises to encourage tremendous commercial progress in information and communication technology as well as environmental technologies and alternative energy.

continued on page 2

inside

- 2 7th Research Framework Program
- 4 EU-U.S. Cooperation
- 6 Promoting Innovation & Growth
- 8 "Big Science" & International Cooperation

The 7th EU Research Framework Program: Nuts and Bolts

EU Research: Success Stories

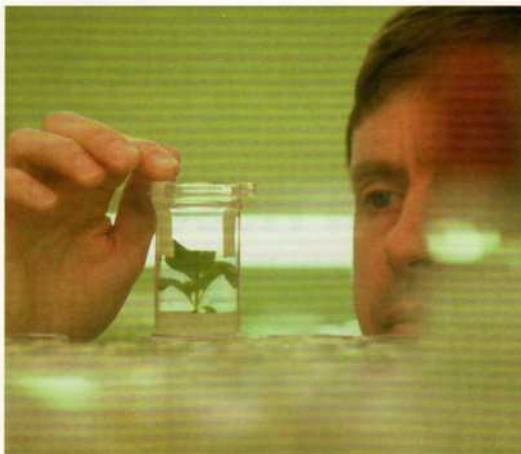
EU research projects and participation have included a number of very high-profile undertakings with the potential—indeed, the reality—of broad global impact. Efforts such as the international ITER project for fusion energy, the GALILEO satellite navigation program (European GPS), and similar-scale initiatives for global monitoring, climate change, environmental security, and telescope development are but a few examples.

Among many lesser-known but significant EU-supported research initiatives:

Supercomputing. The EU-funded DEISA project with its U.S. counterpart TeraGrid have worked jointly to create a common, easy to use, wide-area global file system, dependent on proper supercomputing infrastructure, that enables the research communities on both sides of the Atlantic to work more closely together.

Solar Energy. The CrystalClear consortium has greatly improved processes for large-scale solar electricity production. The European companies and research groups making up the consortium have improved the efficiency of solar cells, demonstrated the sustainability of solar electricity, and defined ways to reduce production costs—all important factors in meeting the EU's sustainable energy goals.

Gene Research. The European Commission, the U.S. National Institutes of Health, and Genome Canada are co-funding large-scale research on the mouse genome (mice and humans share 99 percent of their respective genetic codes) to improve understanding of the ways a single gene can influence human health and well-being. By providing researchers the opportunity to mimic human diseases, experiments will ultimately speed up development of drugs and other treatments.



Late in 2006, the EU launched the €54 billion 7th Framework Program for Research and Technological Development ("FP7"), building on previous efforts to advance research and technology development, help create jobs, and boost economic growth in Europe.

FP7 consists of four main programs—*Cooperation*, *Ideas*, *People*, and *Capacities*—plus separate programs of the Joint Research Center and under the Euratom Treaty pertaining to nuclear energy research and training.

Cooperation

Accounting for more than 60 percent of total FP7 funding, the *Cooperation* program facilitates collaboration on cutting-edge research projects among universities, industry, and research centers throughout the EU. *Cooperation* is also open to researchers from the rest of the world. The ten thematic priorities of the program:

- Health
- Food, Agriculture, and Biotechnology
- Information and Communication Technologies
- Nanosciences, Nanotechnologies, Materials, and New Production Technologies

continued from page 1

International Cooperation

The EU has a strong international science and technology policy that supports European competitiveness through strategic partnerships with other countries, including the United States. The EU is a partner in a number of international scientific and technological initiatives, such as the ITER fusion energy project.

- Energy
- Environment (including Climate Change)
- Transport (including Aeronautics)
- Socioeconomic Sciences and Humanities
- Security
- Space

Cooperation proposals must include institutions from a minimum of three EU Member States or Associated Countries, but otherwise are open to all other countries. Industrialized countries such as the United States are generally expected to bring their own project funding.

Ideas

The *Ideas* program, implemented by the newly-created European Research Council (ERC), provides an average of €1 billion per year for high-impact research in new and emerging areas.

Grants will support both early-stage independent researchers setting up their own research teams or programs as well as more established and leading researchers. Applicants can be of any nationality and need not be in Europe to submit a proposal, but work must be carried out in Europe. *Ideas* will

The Future of European Research

The recent European Roadmap for Research Infrastructures outlines a common European approach to the development of major research facilities, including several of global dimension, that will support the work of European scientists (and attract the best scientific minds from around the world). At press time, the EU was preparing to launch a far-reaching debate on the future of European research involving all concerned stakeholders.

