## SCIENCE AND TECHNOLOGY PROGRAM - EU

advanced materials research were signed and synchronised calls for proposals launched. Several other implementing arrangements are in the works between Europe and the United States.

## Cooperation between ESA and the European Commission

The European Commission's Joint Research Centre is now seeking to ensure what it calls a "coherent European space policy". Major initiatives were launched recently to achieve European autonomy in two critical areas: global satellite navigation and environmental monitoring. The Definition Phase of Galileo, a global navigation satellite under civil control, will be completed in December 2000; this is done in cooperation with ESA for the space segment or GalileoSat. The FP5 key action "global change, climate and biodiversity" which aims to establish a European component in global observation systems for climate, terrestrial systems and oceans, and will identify and help fill gaps in European earth observation system capacity.

## EU Scientific Advice

In 1997, following the BSE crisis, the European Commission restructured the scientific advice function with the creation of eight new Scientific Committes and the Scientific Steering Committee. These committees were the subject of a midterm review published in May 1999. The report concluded they were proof that transparent, excellent and independent scientific advice can contribute to regaining consumer confidence into the system which the BSE crisis had substantially damaged. The lion's share of the 157 opinions dealt with BSE-related questions (23), followed by opinions relating to the safety of genetically modified plants (15) and the assessment of pesticides, food additives, food contact material and cosmetic ingredients. By January 2000, however, more than 50 interest groups had written to the Commission demanding greater transparency and calling for a common set of rules for all the committees, more specific regulations to govern what interests have to be declared and penalties for members who do not comply fully with these rules.

The recent European anti-GMO campaigns, dioxin in Belgian animal feed, problems with Coca-Cola and listeriosis in French pâté have seriously shaken public confidence in the effectiveness of scientific advice and the ability of the Commission to protect European consumers and the environment. In early February 2000, the Commission published its Communication on the application of the "precautionary principle" which justifies early action to prevent harm and an unacceptable impact to the environment and human health in the face of scientific uncertainty. The previous month the European Commission has recommended the establishment of an independent European Food Authority that would be entrusted with a number of key tasks embracing independent scientific advice on all aspects relating to food safety, operation of rapid alert systems, communication and dialogue with consumers on food safety and health issues as well as networking with national agencies and scientific bodies.

## Measuring the Impact of European S&T Investments

In 1997, the EU outpublished the Americans by a small fraction, while in 1982 total US publication was 20% greater. It was speculated that EU funding has played a crucial role in the development of new scientific centers in Europe, such as Madrid, Milan, Stockholm, and Helsinki. Taking into account both number of publications (scientific production) and number of patent applications (technological production), Ile-de-France (Paris) is the leading European center of S&T activity, with London second and Munich third. Besides confirming the leadership of traditional university centers, the ranking underscores the success of German