Science and technology: production and development of Community statistics

2001/0197(COD) - 14/12/2007 - Follow-up document

This Commission report concerns the implementation of Decision No 1608/2003/EC on the production and development of Community statistics on science and technology. The first part of the report focuses specifically on the Decision's implementation. The subsequent chapters concern data quality and the costs /burden of statistics. The final chapter looks ahead to future strategic actions.

Implementation:

Decision No 1608/2003/EC has been implemented alongside two Regulations, which were adopted in 2004. These Regulations concern, firstly, statistics on science and technology and, secondly, Community statistics on innovation. The main achievements of these Regulations have been:

- Reorganising and increasing data production and quality.
- Harmonising the data collection questionnaire and time series with that of the OECD.
- Establishing and implementing quality reports on R&D statistics for various institutional sectors.
- Preparing the fourth Community Innovation Survey with a harmonised survey questionnaire and methodology.
- Collecting and disseminating tabulated CIS4 data and indicators in late 2006, together with CIS4 quality reports.
- Releasing the 2005 Eurostat/OECD Oslo Manual which also covers organisational and marketing innovation.
- Preparing the CIS 2006, which repeats CIS4 in many Member States.
- Opening access to CIS micro-data to more than 50 research institutes.

In 2004, the EU also adopted two further Regulations on R&D statistics, statistics on human resources in science and technology ("HRST statistics) and on innovations statistics only. The main achievements of the HRST Regulation and the Regulation on innovation statistics only are as follows:

- Increasing the regular production of high-tech statistics based on both official and unofficial sources.
- Assessing the underlying classification with a view to any revision, relating to the revision of the Nace nomenclature of economic activities.
- Improving PATSTAT (together with the European Patent Office and the US Patent and Trademark Office).
- Producing an automated method for harmonising the names of patent applicants. The application of this method allows the production of additional patent statistics (such as patent concentration ratios).

To conclude the Implementation Chapter of this report the Commission finds that considerable progress has been made with the implementation of Decision No 1608/2003/EC covering all domains of STI statistics. In addition the launching of additional projects such as the CDH statistics was justified by their relevance with regard to the strength of the underlying policy needs. At an international level, most individual countries have complied with the provisions of the Decision as well as stepping up their efforts to make any national adaptations or investments. This alone has led to an increase in the availability of STI statistics.

STI Statistics: Data quality:

R&D statistics: The quality of European R&D statistics improved following implementation of Regulation 753/2004. As from 2003 the availability of R&D statistics has increased. The accuracy of the data collected and its comparability between countries is also good.

Community innovations statistics: The quality of CIS4 data has also improved considerably, when compared to previous CIS data. This is due to the shorter, clearer questionnaire, stronger production and implementation process at national level and greater familiarity of the CIS with respondents. The timeliness, completeness and comparability of the national CIS 4 data sets have also improved.

Other STI statistics: In other domains quality improvements often depend on progress made with the source data. Considerable progress has been made in this respect with data from the Community Labour Force Survey or from PATSTAT.

The Commission concludes this heading by noting that the quality of R&D statistics and of Community innovation statistics has improved considerably in recent years due, in large part, to the adoption of Regulations No 753/2004 and 1450/2004. The Commission believes that further improvements in data quality are, however, necessary in the years ahead and as such intends to monitor statistical data quality in the various domains.

STI Statistics: Costs and burdens

No firm overall conclusions can be drawn on the costs and burden imposed by R&D statistics and the CIS given that not all countries responded to requests for information on this matter. In the case of Estonia and Italy, two countries that did respond, the report finds that the costs and burden of R&D statistics and Community Innovation statistics on enterprises is very heterogeneous. The Commission, therefore, finds that the costs imposed on enterprises and public bodes is rather varied. At the same time it does believe that these cots can be reduced further in many countries purely by using a more sophisticated application of statistical methods.

Future developments

The further development of STI statistics should relate to the STI system as a whole: scientific input, linkages, output and impact. In future the Commission intends to:

- improve the quality of STI statistics as a whole;
- revise certain concepts and definitions of human resources in science and technology;
- evaluate and stabilise statistics on the career development of doctorate holders and to make better use of PATSTAT for internationally comparable patent statistics through the creation of new indicators;
- revise the definition of high-tech industries and knowledge-based services by making them more relevant;
- internationalise STI statistics;
- improve Community Innovation Survey to make them more relevant;
- improve access to STI micro-data by making transmission of CIS micro-data to Eurostat compulsory;
- improve STI indicators on knowledge flows, linkages, STI output and impact;
- screen the STI input indicators to check their relevance;
- investigate the handling of STI data related to higher education institutions or enterprise groups;
- integrate statistics on biotechnology, nanotechnology and other emerging sciences into STI statistics;
- revise Regulation No 753/2004 and 1450/2004; and
- adopt a third Commission Regulation on the statistics on the career development of doctorate holders.