

# Transfer of Technology and Know-How within the European Statistical System

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## **Résumé**

*Après avoir rappelé ce que sont Eurostat et le Système Statistique Européen, ce papier expose brièvement l'étendue de la recherche en statistiques officielles financée par l'Union européenne. Il explique ensuite les raisons qui ont conduit Eurostat à prendre conscience de la nécessité de transférer les technologies et le savoir-faire ainsi accumulés, puis examine les différentes actions qui ont été lancées pour répondre à ce besoin.*

## **1. Eurostat and the European Statistical System**

Eurostat was established in 1953, to provide the Commission and other European Institutions with reliable and comparable statistics, which would help them to define, implement and monitor Community policies. Since its establishment, Eurostat has played an important role in the European integration process and has made a consistent effort to respond promptly to the changing needs of the policy makers. Data collection for the European Monetary Union, production of short-term economic indicators, support for the development of the statistical systems in the candidate countries, to name just a few, demonstrate how Eurostat has adapted its statistical programme in line with the political priorities of the European Union.

In performing these tasks, Eurostat relies on input from a European network of statistical offices, the European Statistical System (ESS). Member States collect data and compile statistics for national and EU purposes. Eurostat's role is to promote harmonisation of statistics in close co-operation with the national statistical authorities. In addition, Eurostat co-operates closely with international organisations such as the UN and OECD and works with countries outside the EU. A key task for Eurostat is to co-ordinate the improvement of the statistical systems in candidate and developing countries. Special programmes have been established with countries in Central and Eastern Europe (Phare) and the New Independent States of the former Soviet Union (Tacis). Eurostat also works closely with national statistical offices in Mediterranean countries and in many African countries.

For the last 10 years, efforts have been made to identify good practices and to stimulate the developments of new methods and tools, and production of new software applications for the benefit of the ESS. So far, approximately 150 research and development projects have received financial support from the European Commission through the various Framework Programmes (in excess of 80 million €). Appreciable results have been achieved and more than 40 projects are presently on-going: technology and know-how have to be transferred!

## **2. Transfer of Technology and Know-How**

National Statistical Institutes (NSIs) have neither the funds nor the expertise to carry out all the necessary research and development. Also, a co-ordinated approach with a European dimension is often more cost effective than isolated, national initiatives. With the objective of increasing the efficiency and the cohesion of the European Statistical System, Eurostat has launched a set of actions to facilitate and promote best practice and technology transfer between NSIs.

In addition to Eurostat and the Joint Research Centre of the European Commission in Ispra (JRC), potential actors in this process include NSIs (both as originators of technologies that they are willing to share, and as recipients of technologies that are offered for transfer), academia (as originators of technologies developed in the framework of research programmes in which they participate) and software houses (as partners able to turn research results or prototypes into commercial products and to market them).

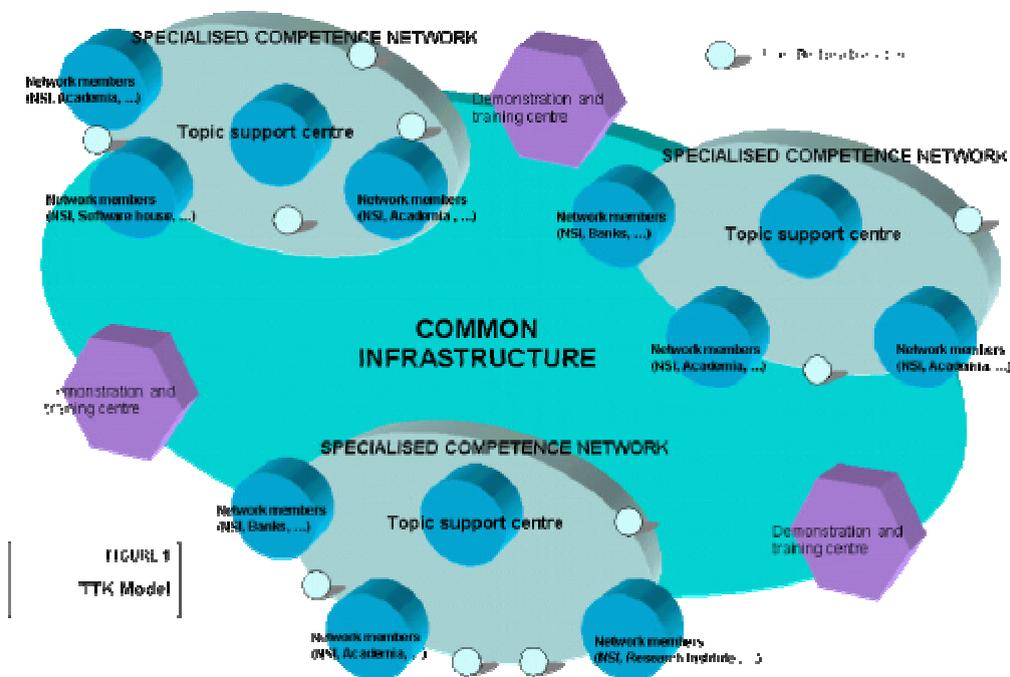
The key characteristic of this activity is that it is user-driven, which implies that users must participate, contribute and express their needs. The following fields are considered high priority: short term statistical

indicators, automated data capture, metadata, quality, business registers, statistical disclosure control, and seasonal adjustment.

Eurostat's approach to the transfer of technology and know-how is illustrated in the figure below: 'Specialised Competence Networks' rely on a 'Common Infrastructure' to bring together suppliers who have developed practical tools or possess know-how that is transferable and users who are interested in benefiting from these resources and experience.

More precisely, the 'Common infrastructure' helps define priorities, based on users' needs and requests, and ensures a common approach so that activities are coherent across the different topics. This includes the global co-ordination of the activity and the evaluation of its results, the setting up and the operation of common resources (training and demonstration centres, repository of results from past research, register of software,...), the assessment of concepts, methodologies and products, the organisation of seminars, user groups and exhibitions, the provision of support to use, maintain, adapt and improve selected products.

On the other hand, the 'Specialised competence networks' bring together suppliers who have developed practical tools or possess know-how that is transferable and users who are interested in benefiting from these resources and experience. They are separately organised around individual, well-defined topics and comprise both a number of organisations having a high expertise in the corresponding topic and a number of interested users willing to take advantage of it; within the common infrastructure, they are in charge of providing facilities in their field of competence.



Eurostat's approach to the exchange of technology and know-how

## 2.1 International co-operation

Eurostat and the European Statistical System actively engage in international co-operation efforts. For instance, a co-operation arrangement in Research and Methodology has recently been signed by the Director General of Eurostat and the US Chief Statistician. In the short term, this will result in two very concrete actions:

- a common portal on data confidentiality, including the exchange of best practices and promising research areas, will be launched at a conference to be jointly organised by Eurostat and the US Bureau of Census before the end of 2001;
- common software will be jointly developed to further improve the seasonal adjustment process.

Other topics, such as 'quality in statistics' and 'statistical indicators for the New Economy', have also been identified as possible areas for future co-operation.

## 2.2 Conferences and workshops

For more than a decade, Eurostat has organised a number of conferences each year, generally in partnership with other organisations. Moreover, Eurostat Officials regularly contribute to international conferences and workshops as speakers and chairs.

The most recent activities included:

- the Statistical Data Confidentiality Work Session, jointly organised in March 2001 by the UN Economic Commission for Europe and Eurostat, which explored applications of SDC methodology and software in business, social and demographic statistics. The impact of new technological developments in software, communication and computing of SDC; the attitude of respondents and users towards statistical confidentiality, and progress in the implementation of SDC methods and techniques in Central and Eastern Europe;
- NTTS 2001 (New Techniques and Technologies for Statistics), the fourth in the series, following the tradition of the 1992, 1995 and 1998 seminars, was held recently in Crete. It was dedicated to the impact of new technologies on statistical collection, production and dissemination systems. Key topics were the construction of information systems, data collection and processing procedures, and the quality of the entire statistical process. It was intended to stimulate and facilitate the preparation of new innovative projects, to encourage co-operation and possible building of consortium by researchers with the aim of enhancing the quality and usefulness of official statistics.
- ETK 2001 (Exchange of Technology and Know-how) has been held in parallel with NTTS 2001; the second of its kind, after ETK '99 in Prague. It aimed at providing a forum in which the producers of official statistics and the developers of statistical methods and tools could meet to map needs to methods, to identify gaps to be filled and to "network". Special emphasis was placed on research efforts that have already reached maturity and have generated products, tools and methods that are transferable, in particular, to projects that originate from the multi-annual research programmes managed by Eurostat. Relevance and efficiency of the methods for the statistical production system were key issues, as well as the best available strategies for technology transfer.

### 2.3 TES – Training for European Statisticians

Six years ago, the need to develop a European dimension for the training of public administration managers of Member States led Eurostat to create a truly European post-graduate, vocational training programme for statisticians. This initiative was strongly supported by the National Statistical Institutes of the European Union and the European Free Trade Association. In November 1996, recognising the growing importance of training as a catalyst in the development of the European Statistical System, 13 of the EU and EFTA National Statistical Institutes decided to organise this training henceforth through a non-profit association: the TES Institute.

Offering training for official statisticians within Europe, surpassing national boundaries in its organisation and content, the programme fills the gap between the training schemes of the NSIs and the challenges of the European Statistical System. Intended to raise the quality of statistics (harmonisation, comparability and transfer of new tools, methods and technology), it must not only meet the challenges of the enlargement process and of the Economic and Monetary Union, but also cope with reduced resources and changing training policies. This requires a closer look at the customer needs and strengths and weaknesses of a European Statistical Training programme.

### 2.4 The 'VIROS' Web site <sup>(1)</sup>

The 'VIROS' Web site has been set up on Europa, the server of the European Institutions, since it was launched in February 1995, and regularly maintained and upgraded since then. Some features are:

- VIROS is the portal to information on research projects funded or supported by the European Commission. It is the unique access point to all relevant information (research results, calls for proposals, policy papers, conferences, publications etc.);
- VIROS hosts the '*ISI glossary of statistical terms*' <sup>(2)</sup>: ISI has set itself the goal of further emphasising its strong commitment to the improvement of statistics and statistical sciences in developing countries, the need for an affordable glossary has become more evident. The developments in computers and computer software have induced us to broaden our scope. An electronic database has then be compiled, from which several products could emerge: simple printed glossaries with a limited set of terms in just a few languages, CD-ROM based programs for the complete set in many languages ... and this Web site. The present version is a start, intended to demonstrate the versatility of the information gathered and to provide an opportunity for correcting and expanding the translations provided, with the help of users. It includes 20 languages and over 3000 statistical terms;
- the *Inventory 'Research in Official Statistics'* <sup>(3)</sup> is a first attempt to construct and publish a comprehensive inventory of relevant activities (current and future research projects, identified needs for technology, methods and know-how, contact persons) in the European Statistical System. It will be constantly updated, possibly in a decentralised way.

## 2.5 The European Statistical Laboratory

The tasks of the *European Statistical Laboratory (ESL)* are: to monitor technology in application areas relevant to official statistics; to disseminate and to demonstrate research results and prototype systems relevant to official statistics; to turn prototype systems originating from Eurostat's and JRC's R&D into operational systems; to disseminate these operational systems and support their implementation in NSIs and other statistical services; to promote the transfer of technology and the exchange of know-how between ESL's partners. Some achievements are:

- TSAOS<sup>(4)</sup> – Time Series Analysis for Official Statisticians – is designed to support officials from the European Statistical System. It includes both a Web site to facilitate the exchange of information, to disseminate information on upcoming events and news, knowledge and expertise, and a forum where users can exchange information on time series analysis, upload documents, take part in discussions, ask questions on methodologies or software and receive answers.
- SODECE – Software and Demonstration Centre – will provide both a physical and a virtual infrastructure to host demonstrations and training. It will be an important tool for the dissemination of 'best practice' software developed during past and present research programmes, making use of the portable system set up by the European Commission to allow presentations to be held anywhere and viewed both locally and at a distance<sup>(5)</sup> (video, slides and demonstrations are broadcasted over the internet). Training resources will be produced and made available in different forms.

## 2.6 AMRADS – Accompanying Measure to R&D in Statistics

AMRADS was recently initiated as an accompanying measure aimed at supporting the exchange of technology and know-how. It is expected to strengthen the conditions for ensuring that established statistical R&D products and know-how reach the market and to actually encourage the transfer of identified best practice from centres of excellence to users within the European Statistical System. For this to succeed, it should set up the necessary physical and virtual infrastructure, create the networks for servicing it and facilitate rapid implementation and adoption.

## 3. The future

The future will be shaped by two documents that are currently being prepared: 1) Eurostat's next *Five Year Programme*, that will provide an overview of the strategies, priorities and work plans foreseen for each planning period, and 2) the *Sixth Framework Programme for Research and Technological Development*<sup>(6)</sup>, that will contribute to the development of scientific and technical excellence in Europe, in EU countries and non-EU countries, especially candidate countries, both in universities and in industry. The importance of research in official statistics is being recognised in both documents; technology transfer and exploitation of research results will in particular be emphasised.

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1. <http://europa.eu.int/comm/eurostat/research>

2. <http://europa.eu.int/en/comm/eurostat/research/isi>

3. <http://europa.eu.int/en/comm/eurostat/research/inventory>

4. <http://time-series.jrc.cec.eu.int/>

5. <http://europa.eu.int/en/comm/eurostat/research/conferences/etk-ntts2001/live.htm>

6. <http://europa.eu.int/comm/research/nfp.html>