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Topic (ii): Challenges and opportunities for statistical offices working in a network environment

**EUROSTAT'S ROLE IN DRAWING UP AND IMPLEMENTING A COMMUNITY POLICY ON  
INFORMATION TECHNOLOGIES FOR STATISTICS**

Submitted by Eurostat <sup>1</sup>

**INVITED PAPER**

**I. INTRODUCTION**

1. The very title of this article raises questions. Does Eurostat have a role regarding information technologies for statistics other than that of making exchange forums available for international or supranational organisations? Before specifying roles, should we not first determine a scenario? And what, in concrete terms, can a concept as broad as an "IT policy for the European Statistical System (ESS)" cover?

2. It is difficult to develop the proposed subject without first answering these questions. It is also important to define a shared vision of the type of technologies we would like to see for the ESS which is currently being developed. This should help us identify medium and long-term objectives and promote the

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<sup>1</sup> Prepared by Daniel Defays.

pooling of efforts by the various players. Finally, without the resources to channel towards these objectives, the undertaking remains pointless - no more than pious wishes or incantations with no hope of tangible results.

3. The article covers the following topics: the justification of the need for a more cooperative approach regarding statistical information technology, a vision of information technology for the ESS and elements of a common policy.

## **II. HOW CAN A MORE ACTIVE ROLE FOR EUROSTAT REGARDING STATISTICAL INFORMATION TECHNOLOGY BE JUSTIFIED?**

4. So far, the question of the IT resources of the NSIs has essentially remained the exclusive competence of the Member States. There are various reasons for this, such as the diversity of the hardware infrastructure, the logistic nature of IT, the differing resources of the bodies concerned, the contrasting background of the administrative authorities of the Member States and the different legal environments. It is therefore legitimate to wonder whether any more than a simple exchange of good practice, or even tools, is needed between certain countries, as has so far been the case.

5. However, certain new aspects which have emerged in recent years appear to be channelling the Member States in the same direction and are consequently encouraging them to increase cooperation regarding statistical information technologies. These aspects include similarities in user requirements, identical constraints imposed by respondents, comparable concerns regarding the rationalisation of existing systems, increasing European integration and common technological demands. These aspects are briefly reviewed in the following paragraphs.

### **II.1 Common user requirements**

6. As various surveys on user satisfaction have shown, users want higher quality (more up-to-date, more accurate and more relevant). Data must be available for everyone on precise dates. The web is becoming the most usual means of access to information. Furthermore, information needs are growing; macro-economic data are no longer sufficient; researchers do not want information to be aggregated. Most NSIs face such requirements, which will probably develop further. Common solutions may be envisaged, as the interest aroused by the experiences of certain Member States shows (e.g. the creation of web sites and data warehouses).

### **II.2 Similarity of the concerns of data suppliers**

7. At the same time, data providers are becoming increasingly reluctant to provide the authorities with information and there is growing concern about the protection of private life.

### **II.3 Joint approach for NSIs**

8. The NSIs are trying to combine their information systems, which used to focus mainly on production, to make greater use of administrative sources and to encourage the application of standards in the exchange of data. They are sharing their experience and software (Axis PC, Blaise, StatLine, etc.).  
Process of European integration

9. The construction of Europe and the implementation of a work programme in the field of statistics also require a more concerted overall approach. The ESS needs a technological platform. A common legal basis provides the ideal conditions for concerted development. Market expectations are high: a feeling of European citizenship is appearing. With globalisation, national limitations are disappearing, and the process of enlargement - with the arrival of several new Central and Eastern European countries - is giving rise to new requirements regarding cooperation.

#### **II.4 Technological impetus**

10. The essential role of technology in the process of convergence cannot be ignored. The electronic society is imposing its standards on everyone and it is not a coincidence if many statistical institutes are simultaneously examining the potential advantages of new tools or concepts, such as data-warehousing, subject-oriented techniques and web interfaces.

11. A more concerted approach to the development of our information systems would therefore appear desirable. As the Statistical Office of the European Communities, Eurostat has a role to play in organising such synergy. This role can only be defined within a general plan, an overall strategy for the European Statistical System, based on a shared vision.

### **III. THE CONTRIBUTION OF IT TO THE ESS IN 2005-2010**

12. The proposed vision is based on the idea that ESS activities focus on a few important areas such as:

- ◆ the collective drawing up of documents and methodologies;
- ◆ shared financial, legislative and administrative circuits;
- ◆ bi- or multi-lateral contacts;
- ◆ organisation of meetings;
- ◆ shared development of tools for the ESS;
- ◆ mutual support;
- ◆ exchange of data;
- ◆ sharing of information and statistics;
- ◆ joint distribution.

13. This makes it possible to divide the scenario into four chapters: working environment, exchange and sharing of information, construction/maintenance, dissemination of programme software and dissemination of statistical information. It is presented in the form of statements describing an ideal situation.

#### **III.1 Working environment**

14. Administrative procedures such as invitations to meetings, the distribution of minutes, written consultation of Member States and the cofinancing/subdivision of projects are computerised. Videoconference facilities exist or there is at least bilateral communication with the exchange of documents between the Member States and between Member States and Eurostat. If confronted with a technical or organisational problem, statisticians can use discussion forums on the network, where information can be exchanged with colleagues in other countries.

### **III.2 Exchange and sharing of information**

15. The exchange of data with the Member States is carried out via a secure electronic system. The Member States have free online access to the data concerning them in Eurostat's reference databases on a reciprocal basis.

16. The NSIs, Eurostat and possibly other bodies make software directories available to the ESS. The software is certified, documented in a standard fashion and accessible free of charge. All official documents with ESS relevance (e.g. legislation, SPC decisions, minutes of committees/working parties and methodological documents) are accessible online in a user-friendly way.

### **III.3 Construction/maintenance/dissemination of software**

17. New Community projects are assessed in terms of their impact on national and Community information systems. Where appropriate, the necessary developments are carried out jointly under the supervision of a Member State or Eurostat. Some distinct profiles are made available to the whole system and there are schemes for short-term stays in different countries. Joint services are backed by a central help-desk, access to which is open to the relevant national representatives or even, in some cases, all users.

18. In order to obtain low prices and to increase their importance as clients, NSIs can easily group together to approach certain computer suppliers regarding their common requirements. To ensure the interoperability of their systems, the NSIs and Eurostat have agreed on data structures, exchange protocols and standard interfaces. Developments are designed as modules which can be used again by others. NSI groups are specialised in certain fields, in which they act as a centre of excellence which makes its know-how available to the whole ESS.

### **III.4 Dissemination of statistical information**

19. The whole of the ESS is presented to users through a joint portal which makes it easier to compare the data of the various Member States. The national sites continue to exist but, wherever possible, they use common standards. Explanations in English are always given. All statistical publications have an electronic version accessible to the NSIs and Eurostat.

## **IV. HOW MIGHT AN IT POLICY FOR THE ESS LOOK?**

20. The word "policy" is ambiguous. It clearly incorporates the notion of direction, a line of action and the use of resources to achieve objectives. To speak of "IT policy", therefore, implies certain prerequisites: an agreement on what is to be achieved and the monitoring of certain resources which can be mobilised to meet the objectives set. Are these conditions fulfilled in the European Statistical System? A scenario of what may be desirable has been outlined in the preceding chapters, but it remains embryonic and is not yet shared.

21. At a conference held in Luxembourg in 1999, certain priority actions were identified.

- ◆ the use of GESMES for the exchange of data between Eurostat and the NSIs;
- ◆ the strengthening of an old joint technology by participation in statistical research projects cofinanced

by the Fifth Community Research and Development (R&D) Framework Programme;

- ◆ the harmonisation of metadata;
- ◆ the promotion of a network of excellence regarding metadata, comprising the NSIs, researchers and users;
- ◆ the exchange of experiences in e-commerce and data warehouses.

22. This programme will have to be developed and an organisational structure has been set up to do so, comprising a steering committee which lays down the strategic guidelines and oversees thematic groups on statistical R&D, telematics networks and metadata.

23. The ESS has considerable resources at its disposal for defining a strategy: Community and national budgets, qualified staff in the institutions concerned, a technical exchange infrastructure (networks, virtual meeting facilities, etc.) and an institutional framework, to mention but the main aspects. They have yet to be mobilised to achieve common objectives. Many initiatives have already been taken, such as DOSES, DOSIS, EPROS, IDEP, Statel, Stadium, message standardisation, European seminars on new technologies, confidentiality and Bayesian statistics, etc. They now have to be integrated in a coherent, overall framework.

24. Eurostat should play a prescriptive role as regards standards, act as a catalyst and look to the future regarding new technologies, unify the development of software and facilitate the exchange of experiences and methods.

25. It is clear that, as regards technology, close integration is neither possible nor desirable. The Member States have specific features and constraints which often call for special solutions.

## **V. CONCLUSIONS**

26. This article seeks to show that various factors are gradually making it essential to strengthen cooperation between the statistical institutes regarding information technology. A lot remains to be done, as the proposed vision shows, to make the most of new technologies. However, the advantages of the European statistical system and Community statistics in general are considerable. Elements of a possible strategy have been presented. It is based on compulsory common standards, more modular, interchangeable system designs, systematic exchanges of good practice, common investigative work and in some cases combined development.

27. The individuality of national systems and the particular constraints on each of them call for a cautious attitude regarding the harmonisation of technology as such. Uniformity is not desirable. Respect for this diversity, the exploitation of differences and the pooling of efforts in certain areas remains the overall pattern for the construction of an IT policy for the ESS and the construction of Europe as a whole.