

Distr.
GENERAL

CES/AC.71/2003/22
3 February 2003

ENGLISH ONLY

**UNITED NATIONS STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE
CONFERENCE OF EUROPEAN STATISTICIANS**

**EUROPEAN COMMISSION
STATISTICAL OFFICE OF THE
EUROPEAN COMMUNITIES (EUROSTAT)**

**ORGANISATION FOR ECONOMIC
COOPERATION AND DEVELOPMENT (OECD)
STATISTICS DIRECTORATE**

Joint ECE/Eurostat/OECD meeting on the management of statistical information systems
(Geneva, 17-19 February 2003)

Topic I: Measures for the improvement of quality at the IT management level

**DEVELOPMENT OF THE STATISTICAL INFORMATION SYSTEM OF
THE REPUBLIC OF BULGARIA BY IMPLEMENTATION OF
CONTEMPORARY INFORMATION TECHNOLOGIES**

Supporting paper

Submitted by the National Statistical Institute of Bulgaria

**I. STATISTICAL INFORMATION SYSTEM (SIS) IN BULGARIA – STATUS AND
LEGISLATION INFRASTRUCTURE**

1. The National Statistical Institute of Bulgaria creates the environment of the statistical activities step by step, in accordance with European and International statistical standards. On the basis of the Law on Statistics, adopted in 1992, NSI started to prepare and implement the methodology, methods, classifications and other tools, required by the European and International statistical bodies. It was a law, which regulated the activity of the National Statistical Institute. In the last ten years, the National statistical practice has changed and the classifications and nomenclatures used are the European classifications and nomenclatures. Most of the statistical surveys are conducted in accordance with the European or International methodology. The new Law on Statistics (25 June 1999 and its amendments) has introduced in the Bulgarian legislation the term “official statistics”. The statistical activities carried out by NSI and other Bodies of statistics (ministries and other governmental institutions, dealing with statistical surveys or maintaining information systems) should follow the Law on Statistics. In it there are special Chapters on confidentiality and other principles of statistical activities, as well as a special Chapter on the administrative business register BULSTAT¹.

2. The most important aspects of the new Law on Statistics are as follows:

- ***Bodies of statistics:***

- Art. 3(1) The Bodies of statistics shall carry out the statistical activity of the State by conducting periodical and single statistical surveys, included in the National Programme for Statistical Surveys.

¹There is a prepared draft of the Law for BULSTAT register, to be discussed before adoption.

- (2) Bodies of statistics shall be the National Statistical Institute and the respective structural units within the Ministries, institutions and other bodies of the central and local administration that carry out statistical activity.
- (3) Official source of statistical information shall be the Ministries, institutions and the other bodies of central and local administration under para.(2).
- (4) The statistical surveys cover all areas of public life, which can be observed by means of statistical methods. The particular scope of the statistical surveys shall be determined according to their necessity, usefulness and relevance for the society.

- **Management of statistical activities:**

- NSI methodological role:

Art. 7. (1) The National Statistical Institute shall:

1. co-ordinate the State's statistical activity by means of:

- a) collaboration with other Bodies of Statistics in drafting and implementing the National Programme for Statistical Surveys;
- b) ensuring methodological uniformity in the surveys;
- c) participation in the building up of national information systems.

- NSI Management:

Art. 8. (1) The National Statistical Institute shall be managed by a President and two Deputy-Presidents, nominated by a Decision of the Council of Ministers and appointed for the term of 7 years, but for no more than for two mandates.

- **High Statistical Council:**

Art. 11. (1) The High Statistical Council is a consultative body to the President of the National Statistical Institute, which shall give opinions and recommendations on the National Statistical Institute's plan for statistical surveys, the drafts of legislative instruments in the field of statistics, the national statistical standards, the national classifications, nomenclatures and methods.

(2) The President of the National Statistical Institute nominates as members of the High Statistical Council 20 to 35 well-known experts in the field of statistical theory and practice, as well as representatives of the main users of statistical information and approves the Regulation on activity of the Council.

(3) The High Statistical Council elects a Chairperson among its members.

- **National Statistical Council:**

Art. 14. (1) The National Statistical Council shall be a body responsible for the drafting and implementation of the National Programme for Statistical Surveys, attached to the President of the National Statistical Institute.

(2) The National Statistical Council shall consist of 16 members - representatives of the: Council of Ministers, Bulgarian National Bank, Ministry of Finance, Ministry of Labour and Social Policy, Ministry of Economy, Ministry of Agriculture and Forestry, Ministry of Regional Development and Public Works, Ministry of Health, Ministry of Education and Science, Ministry of Interior, Ministry of Defence, Ministry of Transport and Communications, Commission for the Protection of Competition, National Social Security Institute and the President of the National Statistical Institute, who shall be the Chairperson of the Council.

(3) The members of the National Statistical Council shall be nominated and dismissed by the Heads of the respective institutions.

(4) The National Statistical Council shall:

- 1. adopt a long-term strategy for the development of statistical activity;

2. discuss the proposals from the Bodies of statistics for including statistical surveys of inter-institutional significance in the Draft of the National Programme for Statistical Surveys and take decisions for including particular surveys specified in kind, scope and executives;
3. draft the National Programme for Statistical Surveys and present a statement related to its financial provision to the Minister of Finance;
4. approve a list roll of the structural units in the government administration, which are Bodies of statistics within Art.3, para.2, as well as the Rules on their activity;
5. adopt Rules on its activity.

- ***National standards, classifications and nomenclatures*** :

Art. 10. (1) The standards, classifications, nomenclatures and methods referred to under Art.9 point 5 shall be mandatory for the establishing and maintenance of the national statistical and information systems and registers and for the approval of forms and blanks of the necessary documents.

(2) The classifications and nomenclatures having national status that are developed by the Bodies authorized pursuant to a legislative instrument, shall be coherent with the national classifications and nomenclatures, developed and maintained by the National Statistical Institute.

(3) The national classifications and nomenclatures and the Regulations for their application, as well as the statistical standards shall be published in the "Official Gazette" within 30 days following their enactment or amendment.

3. General tools for co-ordination of the statistical activities are the ***National Programme for Statistical Surveys***, the institutions of the ***High Statistical Council*** and ***National Statistical Council***, the ***national classifications and nomenclatures*** and the ***business register***. The National Programme for Adoption of the Acquis in the field of Statistics (***NPAA***) has an important place in the statistical activity organisation and management.

4. In the last few years NSI has been striving to build up statistical infrastructure tools by implementing contemporary IT. Most of the activities included in the Strategy for Development of Statistics are marked as first priority. General steps in this direction are the following:

- BULSTAT Register' building up;
- Internet and Intranet;
- dissemination of basic statistics by Internet;
- methodological work and elaboration of Technical Specifications, concerning the Register of the Statistical Units and the Unified Information System "Classifications and Nomenclatures".

5. The current Statistical Information System of Bulgaria could be represented by the following items:

- The events and processes of the economy and society are studied following the methodology required by Eurostat in all cases if possible; in cases varying from the European practice, the NSI and other Bodies of statistics try to find the most appropriate indicators.
- The current business register for statistical purposes EKPOU'96 has been elaborated using CLIPPER. The maintenance of the register and survey services are hard and slowly. There is no possibility to follow the "history" of the units. Lack of finance is the reason for not implementing contemporary IT relevant to the business register for statistical purposes (Register of the statistical units). The only item ready for its development is the TS.
- NSI has adopted and published the general European statistical classifications as National ones. NSI ensures methodological unification, concerning the implementation of the classifications and nomenclatures in the National statistical and economic practice. Lack of finance is the reason for not implementing contemporary IT, needed for the dissemination and usage of classifications and

nomenclatures by the “classification server”. NSI has ready TS for the development of the Unified Information System “Classifications and Nomenclatures”.

- The processing of the statistical survey data is organised for each statistical survey following its own way. There is Intranet, but data exchange is done by files, as there is no a unified system and data warehouse.
- NSI maintains a BULSTAT Register, developed as a contemporary central business register, providing on-line information for the legal units of the National economy.
- There are two databases, named: “Economy” and “Population”. The platform of these two databases is UNIX-Informix Dynamic Server. The content of the bases is limited; no historical information on the projects is foreseen to be kept, as well as to have on-line up-dating procedure. At present, the systems are updated periodically, after processing of the survey data. These systems must be built up once again on the ground of the new IT platforms as components of the future Integrated Statistical Information System. The information of the existing databases will be used for data migration in the new Integrated SIS.
- The dissemination of statistics by Internet is being extended. There is information on the NSI’s website relevant to NSI’s role and rules for work, methodologies and rules for conducting statistical surveys, as well as statistical data, regularly updated (as a rule, new data have been added to the already existing ones).

II. DEVELOPMENT OF SIS IN BULGARIA: INTENTION FOR BUILDING UP AN INTEGRATED STATISTICAL INFORMATION SYSTEM

6. The vision of the NSI Top management is that coordination of the statistical work of NSI and other Bodies of statistics, use of the administrative sources to produce statistics, implementation of contemporary technologies, creation of a statistical database for common use with a controlled access is the best way to develop the statistical information system. There is a special topic in the revised Strategy for Development of Statistics, concerning development of an Integrated Statistical Information System².

7. According to the institutional needs, ISIS development could have the following as immediate objectives:

First, to improve the statistical infrastructure tools by implementation of contemporary information technologies;

Second, to describe the current statistical information system – so as to define the most important and “narrow” fields. Beginning from this point – to develop a strategy for ISIS building up (to define the steps and deadlines, necessary sources) in accordance with the directions of the European SIS development, using contemporary IT.

8. The NSI intention about developing statistical infrastructure tools by using contemporary IT is concentrated on the following immediate tasks:

- Register of the statistical units (RSU): general functions, sub-systems and possibilities in accordance with the approved Technical Specification for its building up;
- Unified Information System “Classifications and Nomenclatures” (UISCN): general functions, sub-systems, possibilities, users and dissemination in accordance with the approved Technical Specification for its building up.

9. With the EC requirements and EU experience in mind, the NSI has prepared Technical Specifications for RSU and UISCN. The most important items and requirements in respect of the two significant information systems are as follows:

² All-important components of the Integrated Statistical Information System are included in the Strategy for Development of Statistics as of 2000. There is a new understanding on the necessity of applying a common and unified approach related to the development of components and the entire system.

Register of the statistical units

Purpose: The Register of the statistical units (RSU) is a complex software product, including the statistical business register, tools for its building up and maintenance, as well as a set of interconnected programmes, ensuring full and effective solution of the problems, relevant to organisation and implementation of the statistical surveys and processing of the survey data and results.

General functions of the RSU - to serve the NSI statistical activities, in the following ways:

- collect and maintain information for the statistical units up-to-date;
- implement the Eurostat business register methodology in the Bulgarian practice;
- follow the changes of the units, provide information on the demography of the statistical units, store information for the statistical units, as regards the time series on the macroeconomic indicators;
- maintain tools for preparation, co-ordination and conduction of statistical surveys;
- provide information, relevant to the units' participation in the statistical surveys and response burden;
- have applications, concerning sampling methods, definition of the units' coverage, classification of the statistical units and etc., easily used by different RSU users.

Technical platform: At present, we could not say what would be the platform – it depends on the participants and the winner in the coming tender.

Statistical units: enterprise, local unit, kind of activity unit, local kind of activity unit and legal unit. The included units have been chosen after a profound analysis of the relationships and structure of the economy in Bulgaria, aiming at compliance with the EU requirements for structural, short-term statistics, as well as National accounts necessities.

General characteristics of the RSU, as an information system:

- Centralized database with options to be used by Intranet from the NSI units and Regional Statistical Offices too;
- Ensure link with the UIS “CN”, using the National classifications and nomenclatures and the statistical survey's nomenclatures as well, in accordance with the statistical survey methodology;
- As a core part of the future ISIS: general tool for carrying out the survey, managing the data processing on the single survey level, as well as for formation of the macroeconomic indicators and national accounts.

Conclusion note: The RSU is more or less a “hide” information system. It is the most important component of the IT systems and technologies for realization and improvement of the statistical activities.

Unified Information System “Classifications and Nomenclatures”:

General purpose of the UISCN: to be an effective tool for elaboration, maintenance, unified and correct usage, easy and quick access to the National, European and International classifications and nomenclatures for statistical and other practices in the state.

General functions of the UISCN: to be a centralized information tool for:

- elaboration of new, revised/updated classifications and nomenclatures;
- unified and correct usage of the National, European and International classifications and nomenclatures in the statistical practice and external applications;
- use of the National classifications and nomenclatures by the contemporary technologies and different “search” tools, even using a word;
- statistical survey assistance – in the usage of the last version of classifications and nomenclatures and also in the “history” of classifications structures (for time series formation);
- link between different ISIS components (by used classifications and nomenclatures);

- link between the National, European and International classifications and nomenclatures sites (websites);
- regulated access to database by different users;
- classifications and nomenclatures' dissemination on paper and different e-formats;
- management of the "Metadata" database, as a core component of the future ISIS.

Sub-systems concerned with different procedures and services of the system, are defined in the Technical Specification.

Users of UISCN are NSI (all units), Regional Statistical Offices, other Bodies of statistics, enterprises maintained information systems and citizens.

10. The next immediate task, concerning the work on the future ISIS is *the usage of the overview of the statistical surveys and their questionnaires*, as a basis for building up the main elements and modules of the "Metadata" database. The intention is to collect records on questionnaires, definitions and links between indicators, as implementation of the harmonized surveys' methodology (based mainly on the Eurostat and International statistical methodology). The work is at the very beginning, but we find it important and significant for the improvement of the statistical activities.

11. *Description of the current Statistical Information System*, analysis and definition of the stages for development and building up of the Integrated Statistical Information System, preparation for the building up of the modules for common use – it is considered as the next immediate task in the work on future ISIS. The NSI considers the description of the current system as an important work for defining the survey procedures, indicators, processing procedures, links between the units in NSI, RSO/NSI, NSI/other Bodies of statistics, administrative sources of statistical data and all details of statistical activities on the "information language". We hope that a correct description is a prerequisite for the development of a realistic Strategy for building up an Integrated Statistical Information System, using contemporary IT.

12. Our *work definition of the Integrated Statistical Information System (ISIS)* is as follows: It is a computer organised information system, formed to ensure SIS functioning by using contemporary IT, with ensured and defined databases access and tools for collection, exchange, processing and dissemination of information in accordance with the aims and in conformity with the Law on Statistics.

13. The general ISIS objective is to make the statistical work easier and to ensure better, easier and clear access to the statistical data and analysis.

III. ORGANIZATIONAL AND FINANCIAL PREREQUISITES FOR IMPLEMENTATION OF CONTEMPORARY INFORMATION TECHNOLOGIES IN THE NSI PRACTICE

14. Implementation of contemporary information technologies in the statistical practice of Bulgaria and building up information systems and databases, as components of the Integrated Statistical Information System, is an important step towards the improvement of the statistical system. Thus, the NSI Top management creates step by step the conditions and accumulates finances for the realization of concrete aims.

Organizational measures:

- A unit, dealing with classifications, nomenclatures and business register for statistical purposes has existed in the NSI since 1992;
- Two units have been found since 1994: one, dealing with classifications and nomenclatures, the other – with the business register for statistical purposes, as well as with the central administrative business register;
- Two departments have been established since 1998: Administrative Registers and Statistical Infrastructure – dealing with classifications and nomenclatures, business register for statistical purposes, information technologies and network.

- In 2002 the Statistical Infrastructure department was reorganized in “Information Technologies and Infrastructure”. A division named “Integrated Statistical Information System” is being established in it.

Study of the EU experience

- Statistical Infrastructure tools are included in the National PHARE Programme – the result is gained knowledge on the experience of some EU member states about the usage of classifications and nomenclatures in the statistical practice and business registers for statistical purposes.
- Under the Multi-Beneficiary PHARE Programmes, NSI has the opportunity to nominate participants in many meetings, seminars and workshops on issues dealing with classifications and nomenclatures, business registers, electronic data interchange, ISIS, metadata and so on.
- Local seminars and courses for the NSI and RSO staff are held also.

Definition of the NSI requirements

- In the last three years, the tasks of the above-mentioned units are not only to deal with ordinary activities, but also to develop the Technical Specifications and requirements for the future Information Systems.
- Gain of own experience by working in the field of big Information Systems such as Bulstat Register and Unified System for Reaction against Crime is an important for correct definition of the requirements.

Finances for building up statistical infrastructure tools and ISIS

15. Budget financing of the work is included in all NSI requirements. Due to lack of funds, the NSI Top management is trying to find some extra finance under:

- National PHARE Programme Co-financing – a tender procedure has began in accordance with the Law for Public Procurements and
- National and Multi-Beneficiary PHARE Programmes – they contribute to have a good and up-to-date knowledge of the Eurostat and International methodology and practice.

16. The NSI intention is to build up an Integrated SIS up to 2008, as a complex tool for collection, processing and dissemination of data accessible to the users in the country and all over of the world, implementing the EU and International harmonized methodology and requirements on the statistical surveys and dissemination.
