

## High-Level Seminar on Modernization of Statistical Production and Services

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### ABSTRACTS

#### Session 1: Challenges in Modernizing Statistical Production

*Gosse Van der Veen, Director General Statistics Netherlands*

*Chairman of High-level Group on Business Architecture on Statistics (HLG BAS)*

*Modernizing statistics: The vision and strategy of the HLG-BAS*

The world is changing. Huge volumes of data are becoming available, new methods and technologies provide opportunities for significant efficiency savings, and statistical organisations are facing many new demands for data. It is clear that doing nothing is not an option. The official statistics community has to react to these new realities, or it will risk losing its relevance.

The High-Level Group for Strategic Developments in Business Architecture in Statistics (HLG-BAS) has produced a vision and strategy, both of which have been approved by the Conference of European Statisticians. The role of this group is to provide strategic leadership and coordinate activities to modernise official statistics. This includes the products, the production processes, and the organisational and human resource dimensions.

This presentation will summarise the vision and strategy, and will present progress so far, including recent work to develop a Generic Statistical Information Model (GSIM). It will outline ideas for the next priority tasks to support the implementation of the vision, and will seek the active engagement of leaders in official statistics.

*Brian Pink, Chief Statistician, Australia*

*Making it Happen: Implementing the Strategy*

The road map for implementing the vision of the High Level Group for Business Architecture in Statistics (HLG-BAS) entails a number of small strategic steps on the way to achieving the end result.

A key constraint to realising the vision is the need to continue our normal statistical activities, with few resources available to make large scale change. With these resource constraints, we need to work thoughtfully in the international environment and make sure our international collaboration activities are prioritised, harnessed and aligned with the strategic goals of the vision. This presentation will outline how we will be determining key priorities and aligning our efforts across the international community.

We see the buy-in of the entire international statistical community as critical to helping us achieve the vision. HLG-BAS operates under the auspices of the Conference of European Statisticians (CES), and while it oversees a number of expert collaboration groups and projects under the CES, many other international collaborations take place under governance which is independent of the CES. As the presentation will outline, successfully engaging these other transnational governance structures to reach agreement on shared goals and priorities, and agreement on how we can realise these priorities, is a critical success factor for the strategy.

The presentation will then discuss mechanisms for ensuring the required expert resources are available to deliver on joint projects.

It will also highlight the essential role of agreed frameworks (e.g. GSBPM, GSIM) and standards (e.g. SDMX, DDI) in ensuring that joint projects can be designed, agreed and implemented efficiently and effectively, and the outputs from different joint projects ("small steps") are coherent and lead toward the big goals

The presentation will conclude with an outline of the next major development envisaged within the strategy, namely the first outline of a "plug-and-play" architecture. This architecture would aim to enable components - which may have been designed, built and shared through international collaboration - to be assembled in different ways - rather like Lego blocks - to support statistical production processes.

***Irena Krizman, Director General of Statistical Office, Slovenia***

*Managing organisational change and human resource implications*

To manage successfully the changes required an organisational structures in the international cooperation and at the statistical organisations need to be modernised. Trusted leadership, new ways of managing and working modes and right mixture of skills (multi-area) are needed to implement the strategy. In order to get more resources for development work, principles of lean thinking could be used. Four main points mentioned in the HLG-BAS Strategy namely: willingness, ability, readiness and speed of change will be discussed taking into account modern managerial practices and practical experiences. People and skills are the most important asset in every organisation but discussion on HR policies and practices in statistical organisation has become an issue in international cooperation only few years ago. Continuous process improvement and implementation of standards are important pillars of successful implementation of change as well. Some benefits from international cooperation have already been achieved. Slovenian experience will be shortly presented.

Key words: organisational change, leadership, management, lean organisation, multi-area skills, standards and continuous process improvement.

***Enrico Giovannini, President of ISTAT, Italy***

*Opportunities for new products and services*

The challenges of modernising official statistics also bring certain opportunities, not least of which is the possibility to develop new products and services to satisfy a wider range of users. This presentation will consider some potential new types of products, including new environments to access and use statistical microdata, as well as other data sets that have traditionally been considered as intermediate outputs in the statistical production process.

***Daniel Defays, Eurostat***

*Streamlining production of official statistics in a supranational context*

To face common challenges regarding data quality, cost of data production, administrative simplification and to take benefit of new opportunities offered by the "digital" economy, the Member States of the EU are implementing a joint strategy, which will lead to a more federated system of production of European statistics.

To achieve that ambitious objective, policy instruments have been developed, a common data production environment is currently being designed, some flagship initiatives are launched in key statistical areas.

## **Session 2: Adapting the Business Architecture for Streamlining Statistical Production Processes**

***Steven Vale, Chief, Statistical Information and Methodology Unit, UNECE***

*Overview of standards based modernization*

Many statistical organisations currently have some sort of modernization programme. Some organizations have already had several such programmes over recent years. Sometimes they are successful, sometimes they are not. This presentation will make the case for putting harmonized international standards at the heart of any modernization work, to increase the chances of success, and to deliver economies of scale, both within the organization, and within the global “official statistics industry”.

The use of harmonized international standards can help in many ways, not least by providing a common model and vocabulary when sharing innovations between statistical domains as well as between organizations. As outlined in other presentations, it is a key part of the strategic vision of the High Level Group for Business Architecture in Statistics, and it supports the development of a “plug and play” architecture, where components can easily be shared.

The presentation will focus specifically on key recent standards, and some that are in development. It will provide a high-level introduction to the Generic Statistical Business Process Model (GSBPM), and the emerging Generic Statistical Information Model (GSIM), showing how they might be combined with standardized methods and harmonized technologies in an integrated and generic statistical production system.

***Priit Potisepp, Director General, Statistics Estonia***

*New methods of data collection*

Data collection is a labour-intensive part of statistical surveys. It requires especially careful consideration in small countries, which tend to have limited resources but relatively large samples. Over the last decade, developments in ICT have had a strong impact on data collection in many NSIs. The development of data collection has several dimensions: process speed/efficiency, standardisation of the collected data, quality, etc. Investments in data collection are successful when institutional, methodological and technical harmonisation of the process is achieved, which can be a huge challenge for large decentralised systems. It is essential to realise that data collection does not have to be decentralised within an organisation or even within a country; this part of the process is not as survey-specific as is sometimes thought. Fragmented data collection does not only cause the use of different systems and tools, but also results in variation in the service offered to respondents by different parts of the organisation.

The strategy of data collection should be seen as integrated with other major fields that need to be integrated, such as data warehousing, metadata, data collection from registers, and the subsequent processing of the data.

Statistics Estonia (SE) introduced the central data collection unit in 2004 – a structural change which has been made by many countries. Our decision has mostly had positive outcomes, although there have been some problems as well.

In Estonia, web-based data collection was pioneered by the Estonian Tax and Customs Board, which showed already at the beginning of this century that both private individuals and enterprises can submit data online. There has been great progress – today, more than 90% of the tax returns of natural persons are filed on the Internet. Back in 2004, SE was not very optimistic about web-based statistical questionnaires. Nevertheless, we focused on this issue. Today, four out of five questionnaires are submitted online. In case of household surveys, all interviews are carried out using laptops. The 2011 Population and Housing Census could be completed online (it achieved the highest web response rate in the world), while the remaining residents were visited by interviewers who completed an electronic questionnaire.

In Estonia, we are considering the example of the Netherlands and Denmark, among others, in order to combine data collection by phone, face-to-face interview and online in household surveys. It is very important to share the experience gained during the application of new methods.

***Zhasser Jarkinbayev, Deputy Chairman, Agency of Statistics of Kazakhstan***

***Concrete objectives of Streamlining production processes and tools on the example of Kazakhstan***

Currently, the statistical system in Kazakhstan is at a new stage of development. A number of reforms designed to create a basis for further successful functioning has been implemented.

The Quality Management System (QMS) ISO 9001-2008 was implemented and certified in the Agency of Statistics of the Republic of Kazakhstan as a necessary condition for continuous improvement and development of the statistical system, and also for maintaining the existing capacity. The system describes the basic processes that affect the quality of statistical activities and their interactions. The principles of total quality management, including user orientation, leadership of top management, and a process approach, were implemented under this system. At the same time, the QMS is not fully integrated into the overall management system. Thus, this integration will be one of the tasks of further development. Practice has shown that the implementation of ISO 9001 had a positive impact on the system as a whole and the key performance indicators of the Agency. At the same time, the QMS does not ensure full compliance with all special requirements for the quality of statistical information and the processes in statistics. Therefore, the crucial task is to complement the QMS to meet all the GSBPM requirements.

The development of information systems is one of the most important tasks for the Agency. In 2010, a new project was launched to create an Integrated Information System called "E-statistics". Its key objectives are to fully computerize the collection, processing and dissemination of statistics, integrate information systems within the Agency with information systems of other government bodies, and provide an easy access to statistical data to all users without restriction. In this regard, the urgent task is to study the GSIM to ensure integration of the information system with the model of business process management of the Agency. In addition, the organizational structure of the Agency needs to be improved in order to meet modern requirements of statistical activities.

***Emanuele Baldacci, Head of Department for Integration, Quality, Research and Production Networks Development of ISTAT, Italy***

***Harnessing new data sources***

More abundant and higher-quality data are required to meet increasingly complex knowledge demands from users and stakeholders in modern societies. At the same time, budget pressures and costs associated with the response burden limit the scope for new surveys. Harnessing new data sources is therefore decisive to provide an adequate supply of information and knowledge while enhancing the effectiveness of statistical production processes.

Within its flagship innovation programme, labelled Stat2015, Istat aims to make a significant step towards standardisation and industrialisation of data production. The programme's key target is to build services and infrastructure within a plug-and-play framework to foster innovation, promote reuse and move towards full integration and interoperability of statistical process, consistent with a service-oriented architecture. This is expected to lead to higher productivity and cost efficiency, while improving the quality of statistical information and reducing the respondents' burden.

Among Stat2015's key goals, exploiting new data sources is critical to achieving these objectives. In particular, the strategy focuses on the large use of administrative and web-collected data as a key input in the construction of statistical information systems that rely on the integration of survey data, registers and administrative archives. The comprehensive use of these data, within a consistent methodological framework, is expected to improve data

availability, quality and timeliness at a lower budget cost. This entails efficiency gains in data collection and sample design, data validation and quality processes, estimation, and results dissemination. While harnessing new data sources can help lower data production costs while increasing data quantity and quality, fully exploiting the potential of big data requires important investment in innovation. The use of new data sources for statistical purposes requires the development of new methodological and quality-based tools and depends heavily on the poolability of data archives, data standards and IT infrastructure. This requires (i) a solid strategic framework to guide innovation in statistical processes; (ii) production process reorientation consistent with the new business architecture; (iii) new statistical and IT tools to deal with the challenges stemming from the intensive use of new data sources and (iv) strong partnerships with holders of administrative archives to maximise data re-use.

An additional opportunity arises from the Internet as a data source. Scraping the web implies dealing with big data and requires synergic interventions in terms of infrastructural, methodological and technical support in order to exploit the online available information to produce official statistics.

### **Session 3: Streamlining Production of Official Statistics - Centralized vs. Decentralized Systems**

***Heli Jeskanen - Sundstrom, Invited Expert, Finland***

*Centralized statistics from decentralized administrative registers*

Administrative registers and data on them refer here to any data collected primarily for administrative purposes, to serve the needs of authorities. Administrative data are usually linked to different kinds of administrative processes and decision making. Typical examples of these include taxation, granting of social benefits or social and economic subsidies, decisions on pensions, permits relating to construction or the environment, and registrations of people and companies in order to secure their legal rights and obligations. Administrative registers are usually kept and maintained by different authorities belonging to the various government departments. Instead of the nationwide administrative registers, decisionmaking and the corresponding registers are sometimes decentralized to the local or regional authorities.

In this presentation, ‘centralized statistics’ mean statistics which are compiled and published nationwide by one statistical authority. ‘Decentralized administrative registers’ mean administrative registers which are decentralized to the local or regional authorities.

Statistical offices began to exploit administrative files as their information systems developed and the administrative data became available in electronic form. Nowadays, the use of administrative registers in the compilation of official statistics is becoming a common practice in most of the countries. Administrative data and registers are used in many different ways and in different statistical domains in the statistical production process. The experience gained so far shows that there are certain benefits of using administrative registers like costs savings, lowered response burden, improved quality and relevance and better research service. There are, however, some preconditions which are needed to the successful exploitation of administrative registers in official statistics.

These preconditions refer to the general trust in authorities and transparency of administration, universal identification systems for registered entities and well developed IT infrastructure in administration as well as strong legal support for the use of administrative data in official statistics. The presentation will also emphasize the crucial role of co-ordination in official statistics and the close collaboration between the register authorities and the statistical office using these registers

The benefits and preconditions are largely the same in case of centralized and decentralized administrative register. However, in the latter case the cost savings might be smaller and more resources are needed for the overall co-ordination of basic data from registers and quality control and quality assurance of statistics production.

***Vadim Pischeiko, First Deputz Chair of the State Statistics Service, Ukraine***

*Strategy for the reform of the National Statistical System of Ukraine*

The paper “Strategy for Reforming the National Statistical System of Ukraine” characterizes the development of the legislation basis of the national statistical system starting from the legislation act, which regulated the state statistical activity at the beginning of independence gained by Ukraine (Ukraine Law “On the State Statistics” of September 17, 1992) and the current system for legislation acts in the area of statistics (the new wording of Ukraine Law “On the State Statistics” of July 13, 2000, Ukraine Law “On the National Bank of Ukraine” of May 20, 1999, “The Customs Code of Ukraine” of July 11, 2002 and other normative legal acts which form the legal environment of the national system of statistics).

The paper also describes the current practice in interactions between the state statistics offices and the bodies, which act as co-producers of statistics and comprise a common national statistical system, on drawing up of the long-term and current plans to develop the state

statistics, coordination of statistical methodology and reporting documentation, mutual exchange of information resources.

The paper will also define the priorities, according to which, under the framework of the future Strategy for the State Statistics Development till 2017”, the national statistical system will undergo reforming. The Strategy implementation will result in creation of the common legislation base for all official statistics producers in the context of harmonization of legislation in the state statistics area and related areas according to international standards and the EU legal regulations. To improve the interactions between the state statistics offices and co-producers of statistics, the committees of statistical information producers will be set up and undertake a number of actions. In particular, during the implementation of the Strategy actions, the SNA 2008 will be introduced. It foresees a shift towards the new versions of CTEA 2010 and classifications of institutional sectors of the economy; the methods to record the non-observed economic activity will be improved by introduction of the European Tabular Approach to reach the data exhaustiveness; the changes will be made to the government finance statistics, monetary statistics and balance of payments. In statistics of foreign trade in goods, along with the State Customs Service, the state statistics will be adapted to international recommendations (IMTS 2010) adopted by the UN Statistical Commission; in foreign trade in services statistics, to international standards in accordance with the Manual on Balance of Payments Compilation (the 6th edition) and Recommendations on Statistics of International Trade in Services (UN, IMF, OECD, Eurostat, WTO 2010).

***Dieter Sarreither, Vice- President, Federal Statistical Office, Germany***

*Modernizing statistical production in a federal State*

As a federal State, Germany’s institution architecture is very complex and needs to merge several partners of the national and regional level.

For 60 years now, Destatis and the Statistical Offices of the Länder have a coherent and integrated business architecture with independent partners in a decentralised system.

Through the development and implementation of the so-called “Master Plan” in 2003, they deepened their engagement in this trusted system to strengthen the processes in the light of constrained resources and set it on an official course.

The Master Plan’s objective was to increase the efficiency of the German statistical system by optimising co-operation between the country’s statistical offices and (IT) standardisation and modernizing the statistical production. One of the central elements is the further expansion and development of the cross office fulfilment of tasks.

A good example is the so-called co-ordination of standard programs and formats for a couple of years. Here, one of the offices is commissioned to process the data for other offices against reimbursement of costs. As a principle, the office which offers the most cost-effective fulfilment of a given task will be commissioned to accomplish it.

Currently, Destatis and the Statistical Offices of the Länder work out a so-called “Master Plan II”. This plan shall help to continue the initiated projects and among others lays a focus on the expansion of joint use of IT products.

The presentation will give a short overview on the particularities of the German statistical system and on the results achieved so far. Destatis’ good experiences with the Master Plan could be seen as a best practice for decentralized systems and could be transferred to other decentralized statistical systems in Europe.

***Gerardo Leyva Parra, Research Deputy Director General, INEGI, Mexico***

*The regulations for the coordination of the National system of statistical and geographical information of Mexico*

On April, 2006, a set of constitutional reforms gave rise to the National System of Statistical and Geographical Information. With this reform, the National Institute of Statistics and Geography (INEGI) was transformed into an autonomous entity of the Mexican State, and thus ceased being a part of the federal government. The System is a wide set of Units organized through 4 Subsystems, coordinated by INEGI and articulated by the National Network of Information (NNI). INEGI has two functions in the System: firstly, as a producer of statistical and geographical information with the rest of the members of the System; secondly, the responsibility of being the Central Coordinating Unit of the System.

The National System of Statistical and Geographic Information (NSSGI) has, by law, to have a regulatory scheme that covers three areas: regulations for the units that produce or integrate statistical and geographical information; technical regulations to ensure adherence to the highest international and national standards and to allow consistency in all the system; and regulations to the assurance of the Public Service of Information.

The generation of regulations involves, among others, the following functions:

- Generate guidelines for the development of the norms of the System.
- Encourage the units to practice their statistical and geographical activities considering national and international standards, and produced under a scientifically supported methodology in compliance with international best practices.
- Provide and promote the use of definitions, classifications, nomenclatures, abbreviations, identifiers, directories, symbols, and other essential regulatory elements from the collection and processing of information.

This work is responsibility of the Executive Committees (EC) and the Specialized Technical Committees (STC). The EC have to: review technical standards, develop proposals of indicators and methodologies for the production of information considering national and international standards. The STC have as a main function: to promote the application of the norms and regulations for the collection, process and dissemination of statistical and geographical information; and to provide the technical assistance required for its purpose. The functions of the Specialized Technical Committees are to assist in the implementation and development of technical standards in order to generate consistent and comparable information within the System.

The main idea of this paper is to show how NSSGI now is being organized regarding the regulation and use of standards.

## **Session 4: Integrated Economic Statistics**

***Steve Landefeld, Director of Bureau of Economic Analysis, United States***

*A “Soup to Nuts” Guide for Modernizing and Integrating the Production and Dissemination of Statistics*

This presentation will be based on the United Nations draft Guidelines on Integrated Economic Statistics. These Guidelines were developed at the request of the United Nations Statistical Commission (UNSC) in recognition of user needs for consistent economic statistics for coordinated economic policy and analysis. The Guidelines provide practical advice for improving the efficiency, consistency, and relevance of economic statistics produced by statistical agencies. The Guidelines are designed to be useful for national statistical organizations at different stages of statistical development and operating in different degrees of centralized or decentralized statistical systems. The Guidelines also provide case studies and other practical materials including country experiences in implementing an integrated statistical production approach using the System of National Accounts 2008.

***Hilkka Vihavainen, Deputy Director General, Statistics Finland***

*Towards improved coherence of economic statistics*

Various pressures for change can be seen in the operating environment of economic statistics, and these require reviews of the contents of the statistics and renewals of the processes, methods and operating principles applied in their production. The need to improve productivity requires that new technology, new data sources, new statistical methods and administrative data sources are efficiently exploited in the production of statistics. For these reasons Statistics Finland prepared and adopted the strategy for economic statistics a few years ago. The implementation of the strategy is still underway through various development projects.

The improvement of the coherence of economic statistics is one of the focal areas of the strategy. It covers standardisation of processes, methods and procedures and consequently reducing the number of production systems. A new information system for the National Accounts was developed in order better to allow comparing and reconciliation of various data sources. A uniform information system will be built around the business register for all enterprise statistics. The data supplier relations have been improved by introducing a uniform web-based platform for enterprise respondents. Response burden is continuously monitored and kept reasonable by increasing automated data capture, introduction of new data collection modes and data sources, and by promoting further the exploitation of register data. A special team for handling data from the largest enterprises has been set up. Various actions have been executed to develop compatibility of price and volume measures, treatment of effects from globalisation of economy etc.

The presentation will discuss implemented activities which have improved clearly the coherence of economic statistics. Lessons for further development will be drawn up.

***Norbert Rainer, Chair, Task Force on Business Registers, Statistics Austria***

*Statistical business registers as a prerequisite for integrated economic statistics*

Integrated economic statistics have a lot of advantages, not only for the users of the data. The use of common questionnaires, survey populations, concepts and definitions improve consistency and reduce respondent burden, as well as the production costs of the statistical institute. Business registers play a central role in achieving integrated economic statistics.

The business registers should be implemented and maintained in a way, so that at least the following functions can be fulfilled:

- All survey populations should be drawn from the same business register in a coordinated way.
  - The business register should define and classify the statistical units in a consistent manner.
  - The business register should link the various relevant (administrative) data sources and provide a unique identifier, allowing also micro data linkage.
  - The business register should support the survey process by appropriate monitoring tools.
  - Feedback from the surveys should be provided to the business register in order to update or correct register information.
  - A quality monitoring and improving process of the business register should be implemented in order to make sure that the high quality requirements with respect to completeness, timeliness, accuracy and coherence are met.
- In addition to these main coordination and integration functions, the business registers have now also become central data bases which themselves serve as basis for deriving statistics.

***Serguei Egorenko, Director of Department of Statistical Observation and Monitoring, Federal State Statistics Service (ROSSTAT), Russian Federation***

*Integrated features of implementation of integrated economic statistics principles in the Russian statistical practice*

Economic statistics holds the defining role in society, whereas it predetermines and motivates further development of economy of any country. Integration of economic statistics indicators allows performing economic calculations and forecasting of particular situation development in the economy of the country.

That is why more attention has been paid recently to development of economic statistics, in particular, to application of integrated statistical indicators.

The paper «Integrated Features of implementation of integrated economic statistics» contains issues of statistical information conjugation and its integration during official statistical information production.

Much attention is paid to the problems of macroeconomic statistics, to issues of data comparability at micro- and macro levels which is the basis of statistical indicators integration.

One of the conditions for adequate economy description and carrying out of comparisons at national and international levels of statistical informational resources' integration and harmonization is integration of international classifications into statistical system.

Issues of statistical indicators improvement and their comparability in macroeconomic calculations are being discussed.

Creation of objective unified informational resource that reflects complex characteristics of results of observation units' economic activity has become an important field of activity.

The paper also contains issues of administrative data usage for the purpose of economic statistics, necessity of administrative sources broadening and provision of their comparability with statistical data.

As one of the directions of statistical data integration, produced by various services, including administrative data is experience of the Russian Federation in creation of unified interdepartmental statistical informational resource.

The paper provides Rosstat experience in development and application of integrated statistics taking into account international standards and recommendations by mentioned above directions.