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**Items for discussion and decision:**

**Transformative agenda for official statistics**

Background document

Available in English only

## **INFORMATION ON THE ACTIVITIES OF THE CONFERENCE OF EUROPEAN STATISTICIANS IN THE AREA OF STATISTICAL MODERNISATION**

Prepared by the UN Economic Commission for Europe

The Commission has before it a report of the activities related to statistical modernisation carried out under the Conference of European Statisticians (CES), and supported by the Statistical Division of the United Nations Economic Commission for Europe. The report introduces the High-Level Group for the Modernisation of Statistical Production and Services (HLG), created by the CES in 2010. It outlines the vision and strategy produced by the HLG, and endorsed by the CES, as well as the concrete projects and other activities designed to support the achievement of that vision.

# I. Introduction

1. The High-Level Group for the Modernisation of Statistical Production and Services (HLG) was created in 2010 by the Bureau of the Conference of European Statisticians, the inter-governmental body on statistics of the United Nations Economic Commission for Europe (UNECE)<sup>1</sup>. The HLG comprises the heads of ten national and international statistical organizations, and has a mandate to reflect on and guide strategic developments in the ways in which official statistics are produced.
2. The first main task of the HLG was to develop a strategic vision paper to provide the necessary coordination and direction to the many international initiatives working on topics related to statistical modernisation. This vision was endorsed by the Conference of European Statisticians in 2011<sup>2</sup>. It was followed by a strategy to implement that vision, which the Conference endorsed on 2012<sup>3</sup>. Both the vision and strategy were reviewed in 2014 to reflect developments and ensure continued relevance.
3. Following the endorsement of the vision and strategy, the HLG has been overseeing a number of implementation activities. These activities are a collaborative effort of the UNECE, Eurostat, the OECD, and their member states. They have also benefitted from the involvement of a growing number of other countries, including South Africa and Colombia. Following the establishment of the HLG, a closely connected sister group, the Strategic Advisory Body for the Modernization of Statistical Production and Services in Asia and the Pacific, was established in 2013, to coordinate modernisation activities in that region. The activities carried out under the HLG are strongly demand-driven, in that they respond to the needs and priorities expressed each year by participating statistical organisations, whilst also contributing to the realisation of the vision.
4. This paper outlines the vision and strategy of the HLG, and presents the results of work done so far, as well as some activities currently in progress. It also addresses the issue of international coordination of modernisation activities.

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<sup>1</sup> The CES is comprised of the Heads of statistical offices of 56 member countries of the United Nations Economic Commission for Europe (UNECE), OECD member countries and some other countries outside the region for example Brazil, China, Colombia and Mongolia.

<sup>2</sup> <http://www1.unece.org/stat/platform/display/hlgbas/Strategic+vision+of+the+HLG>

<sup>3</sup> <http://www1.unece.org/stat/platform/display/hlgbas/HLG+Strategy>

## **II. The Strategic Vision – A Summary**

5. The HLG vision was developed in response to challenges concerning both statistical processes and products. These challenges are driven mostly by external factors such as the changing demands and expectations of society, the exponential growth of digital information, and the increasing globalisation of many aspects of economies and societies.
6. The vision can be summarised in the following way:
  - Statistical organisations have to re-invent their products and processes and adapt to a changed world
  - The challenges are too big for individual statistical organisations to tackle on their own; they need to work together
  - In practice this means increased collaboration, coordination and communication
7. The development of new and more flexible products can be facilitated by standardised production processes. This requires a set of common standards, such as the Generic Statistical Production Model (GSBPM), the Generic Statistical Information Model (GSIM) and the Common Statistical Production Architecture (CSPA). These standards have been developed over the last few years through the joint efforts of international experts, facilitated by the UNECE Secretariat and overseen by the HLG. They are explained in more detail in Section IV below.
8. The vision highlights the need to develop a culture of change within statistical organisations, encouraging innovation in terms of sources, processes and products. It also recognises the need to change the way that organisations and their employees work, which should be reflected in changing staff profiles and reallocation of resources.

## **III. From Vision to Strategy**

9. The HLG strategy is the high-level plan to deliver the vision described above. The scope of the strategy is the global official statistics community, including national and international statistical organisations. It will also help emerging economies to connect and be part of the wider information society.
10. The main themes of the HLG strategy are:
  - (a) Statistical organisations need to improve their processes to free up resources for new developments. This improvement will be done by harmonisation based on international

standards such as the Generic Statistical Business Process Model (GSBPM) and the Generic Statistical Information Model (GSIM) and an alignment of methods and technology through the Common Statistical Production Architecture (CSPA)

(b) Products and services must become easier to produce, less resource-intensive, and less burdensome on data suppliers. By designing them as assemblies or frameworks using components, official statistics outputs can become richer, yet easier to produce. Pilot projects will be started to explore this possibility

(c) New and existing products and services should make use of the vast amounts of data becoming available, to provide better measurements of new aspects of society, such as e-commerce and globalisation. Joint research into new products will be started by the HLG

(d) Statistical organisations should create environments that facilitate the reuse and sharing of methods, components, processes and data repositories that not only enable the delivery of predetermined outputs and services but which also enable new products and services to be created more efficiently, as well as enabling end-users to specify and run their own analyses and produce outputs through remote access to underlying datasets

(e) Organisational changes are required to implement this strategy. This will require strategic leadership from top managers. It is recognised, however, that willingness, readiness and ability to change will vary between organisations.

11. The implementation of the strategy involves preparing for change, navigating towards big goals while formulating small steps to get there. This means that:

(a) The HLG oversees the cross-cutting technical groups reporting to the Conference of European Statisticians. Other expert groups with similar goals cooperate. As such the HLG, by default, takes the lead, but recognizes the importance of connecting to all UN regions and will actively reach out to them

(b) An annual list of key priorities and their timeframes is agreed by the HLG and assigned to appropriate expert groups and project teams. The resources for this work are drawn from statistical and other organisations as appropriate. An annual workshop with all expert group leaders ensures progress is made and support is maintained.

## IV. Results So Far

12. The HLG has overseen the development of several major global standards to support statistical modernisation, as well as various supporting outputs. These include:

(a) The Generic Statistical business Process Model (GSBPM)<sup>4</sup>: Although the GSBPM was first released for general use in 2009, one year before the HLG was created, the HLG has taken responsibility for its maintenance and updating. In this role, the HLG commissioned a review of the GSBPM in 2013, which led to several improvements included in the release of GSBPM version 5.0 at the end of 2013.

(b) The Generic Statistical Information Model (GSIM)<sup>5</sup>: This model is a companion to the GSBPM. Whilst the GSBPM describes the stages of the statistical production process, the GSIM describes the different objects (e.g. data, metadata, editing rules, classifications) that flow between those stages. It was first released at the end of 2012, with a revised version (version 1.1) incorporating feedback from early implementers, released at the end of 2013.

(c) The Common Statistical Production Architecture (CSPA)<sup>6</sup>: This provides a blue-print for designing and developing statistical production components in a way that makes it much easier to share within and between organisations. It was first released at the end of 2013, with a revised version (version 1.1) incorporating feedback from early implementers, released at the end of 2014.

(d) Big Data: The HLG has commissioned a number of activities to better understand the importance and impact of “Big Data” and other new data sources on official statistics. The first output was the paper “What does Big Data mean for official statistics?” which was presented to the Conference of European Statisticians in 2013. This was followed by a major international collaboration project in 2014, resulting in guidelines on privacy and partnership issues, a Big Data quality framework, and the documented outcomes of a series of experiments to test Big Data methods and tools<sup>7</sup>. To support these experiments, the “sandbox”, a shared computing environment containing Big Data sets and software tools has been created in partnership with the Irish Central Statistics Office and the Irish Centre for High-End Computing.

(e) Various papers and on-line resources: Examples include papers on topics such as marketing the value of official statistics and machine learning techniques, a generic skills profile for data scientists, and a Virtual Standards Helpdesk.

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<sup>4</sup> <http://www1.unece.org/stat/platform/display/GSBPM>

<sup>5</sup> <http://www1.unece.org/stat/platform/display/gsim>

<sup>6</sup> <http://www1.unece.org/stat/platform/display/CSPA>

<sup>7</sup> <http://www1.unece.org/stat/platform/display/bigdata/2014+Project>

## **V. Work in Progress and Future Plans**

13. Examples of work currently in progress include:

- (a) The development of a set of internationally comparable statistics based on one or more Big Data source – to be released by the end of 2015
- (b) The development of a range of CSPA-compliant components, to be accessible through a central catalogue
- (c) The development of a new Generic Activity Model for Statistical Organisations (GAMSO), which extends the GSBPM by adding the non-data activities that take place in a typical statistical organisation.
- (d) The development of a set of guidelines on risk and change management in statistical organisations
- (e) The development of quality indicators for GSBPM sub-processes
- (f) Sharing ideas and experiences on the use of mobile devices for data collection and dissemination
- (g) Developing ideas and tools to communicate the importance of modernisation and information about new developments, within the official statistics community.

## **VI. Governance and Resources**

14. The HLG reports annually to the Conference of European Statisticians. It is supported by an Executive Board, with members typically at the level of deputy director general, which oversees the major international collaboration projects. Four modernisation committees provide expert-level input on topics such as human resource implications, information technology, methodology, data sources, statistical products, standards and quality.

15. Participation in HLG activities is open to any interested statistical organisations, and, where relevant, selected organisations outside official statistics (e.g. academics and standards bodies). So far, around 40 national and international statistical organisations, from every continent, have participated to some extent in HLG activities. All of these activities are voluntary and un-paid, and are sometimes referred to as a “coalition of the willing”. This means that they naturally tend to align closely with the priorities of the participating organisations. HLG activities are supported by donations in cash (to fund central coordination activities) or in kind (typically in terms of staff time, hosting of events, or technical support).

## VII. International Coordination and Points for Discussion

16. The HLG activities are carried out in coordination with various international organisations and initiatives. Eurostat and the OECD are founder members of the HLG. Eurostat, the IMF and UN-ESCAP have been actively involved in developing and promoting the various standards. The OECD has been a pioneer in developing CSPA-compliant components of statistical production. The work on Big Data is carried out in close collaboration with UNSD and Eurostat, to ensure that international activities are complementary and non-overlapping. The development of the Generic Statistical Information Model and the Generic Activity Model for Statistical Organisations have benefitted significantly from pioneering work under the “Statistical Network” an informal grouping of national statistical organisations with common development aims.
17. However, as statistical modernisation gathers pace, particularly in the context of the “data revolution”, and the drive to find new sources, methods and tools to measure the emerging post-2015 sustainable development goals, the need for effective international coordination is growing.
18. Given the volume of work facing the official statistics community, new working methods are needed. It is no longer possible for one organisation to do everything. A logical response is the development of “centres of excellence” to spread the burden. The HLG is increasingly filling this role in relation to statistical modernisation activities.
19. The HLG operates under the Conference of European Statisticians (CES), of which the UN Statistical Commission is a parent body. As such, the CES could report to the Statistical Commission on a regular basis, the activities and outputs of the HLG that are of interest to the global statistical community. The goals of these reports would be to inform the global statistical community of new developments, and to collect inputs on future priorities.
20. In summary, the CES HLG is actively seeking input from the members and participants of the Statistical Commission on how to maximise the value of its work for the benefit of the international statistical community, how to more effectively communicate plans and outcomes of modernisation activities, and how to ensure sufficient and effective coordination of modernisation activities.