

CONFERENCE OF EUROPEAN STATISTICIANS

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Approved

Item 3 (g) of the Provisional  
Agenda

**REPORT ON THE WORK OF THE HIGH-LEVEL GROUP FOR THE  
MODERNISATION OF OFFICIAL STATISTICS (HLG-MOS)**

**Prepared by the Secretariat**

*This paper provides a summary of the outcomes achieved by the High-Level Group for the Modernisation of Official Statistics in 2019, as well as the planned work for 2020.*

*The Bureau reviewed the outcomes of work in 2019 and provided recommendations on the work under HLG-MOS to be undertaken in 2020.*

**I. BACKGROUND**

1. The High-Level Group for the Modernisation of Official Statistics (HLG-MOS) was created in 2010 to oversee development of frameworks and sharing of information, tools and methods which support the modernisation of statistical organisations. The aim is to improve the efficiency of the statistical production process and the ability to produce outputs that better meet user needs. HLG-MOS oversees work undertaken by a number of modernisation groups, task teams, projects and expert meetings that provide a collaborative platform for experts in statistics to develop strategies and solutions in a flexible and agile way. The modernisation work under HLG-MOS is open to all who are willing to contribute.

2. HLG-MOS strives to remain adaptive to the changing environment and shifting landscape of challenges and opportunities. Its strategic vision is therefore regularly updated and new priorities are set. The annual work program has to reflect these changing needs while at the same time output created earlier has to be supported or further developed. To guarantee an optimal outcome, a process of a combined top-down and bottom-up approach is taken.

3. The chair of HLG-MOS sends out to all countries participating in the work of the Conference of European Statisticians (CES) an open call for submission of project and activity proposals for the next year. Since 2019, proposals can also be submitted to the Blue Skies Thinking Network (BSTN) at any time. After an initial evaluation by BSTN, the HLG-MOS Executive Board provides feedback and decides which proposals will be considered for projects or flagged for other types of follow-up. At the annual Workshop on the Modernisation of Official Statistics at the end of November, these proposals are presented and discussed by experts that are working on national and HLG-MOS modernization activities. Through small group discussions, project proposals are evaluated and ranked, and suggestions are made for follow-up activities and other proposals. Following that, the Executive Board discusses and further refines the proposals. The selected projects and activity proposals are finally submitted for endorsement by HLG-MOS.

4. This paper summarises the outcomes achieved by HLG-MOS in 2019 and outlines work to be undertaken in 2020.

## **II. ACHIEVEMENTS IN 2019**

5. For 2019, HLG-MOS selected the Strategic Communication Framework phase 2 and the Machine Learning as the two projects. The main outcomes of these projects as well as activities which took place under the auspices of HLG-MOS are summarized below.

### **A. Projects in 2019**

6. The Strategic Communication Framework Phase II Project was a follow-up to the 2018 project. The purpose was to extend the framework of Phase I of the project which was endorsed by the Conference of European Statisticians in June 2019. The Project produced the following additional elements of the framework:

- (a) Stakeholder engagement;
- (b) Internal communications;
- (c) Employee engagement;
- (d) Mission, vision and values.

7. The results of the project are available from the [HLG-MOS Wiki](#). They will be combined with the output of phase one into one publication. An on-line version will be produced where new relevant case studies will be added in the coming years<sup>1</sup>.

8. The Machine Learning project included three work packages:

- (a) Pilot studies in the areas of:
  - i. Coding and classification;
  - ii. Edit and imputation;
  - iii. Imagery;
- (b) Quality aspects of the machine learning;
- (c) Integration of machine learning in the organizations.

9. The Machine Learning Project demonstrated the value of using Machine Learning in producing official statistics through several pilot studies in each of the areas. Equally important, the project enhanced the capability to use machine learning techniques within the participating NSOs. By sharing codes and practices within and between the teams and jointly looking for solutions, progress was accelerated. In total 69 experts from 18 organisations collaborated in the project. Australia, Belgium, Canada, Finland, France, Germany, Iceland, Italy, Mexico, the Netherlands, New Zealand, Norway, Poland, Serbia, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland, and the United States of America, as well the International Monetary Fund, OECD, and UNECE took part in this project. A detailed report of the first year of the project can be found on the [HLG-MOS wiki](#).

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<sup>1</sup> It is envisaged that this will be provided by the Capability and Communication Group (refer to section B)

## B. Other HLG-MOS outputs in 2019

10. In addition to the projects, the four Modernisation Groups set up various task teams that produced several outputs that had been agreed by HLG-MOS for the 2019 work programme. These included:

- (a) Generic Statistical Data Editing Model ([GSDEM](#)) version 2.0, which is planned to be submitted to the CES Bureau in October 2020;
- (b) Key Capabilities for Modernising Statistical Organisations [placemat](#);
- (c) Linking GSBPM and GSIM was completed for GSBPM phase 5;
- (d) Alignment of GSBPM Overarching Processes with GAMSO;
- (e) First version of the Core Ontology for Official Statistics;
- (f) Metadata Glossary had 70 GSIM terms reviewed;
- (g) Common Statistical Production Architecture ([CSPA](#)) [2.0 document](#) was prepared and is ready for release;
- (h) Eight more statistical services were added to the [CSPA Service Catalogue](#). There are now 35 sharable statistical services available.

11. The Blue Skies Thinking Network set up a core team of around fifteen Deputy Director Generals to identify and evaluate emerging topics relevant for the modernisation of official statistics. This led to two projects and three activity proposals (respectively: data science lab and collaboration platform, and input privacy-preserving techniques, synthetic data sets, StatsBots and data-driven decision-making support at local level).

12. Steering and organisation committees organized six workshops on innovation and modernisation to share experience, identify areas for collaboration and set agendas for future work. In chronological order these were:

- (a) Workshop on Statistical Data Dissemination and Communication ([Gdansk, Poland, 12-14 June 2019](#));
- (b) ModernStats World Workshop ([Geneva, Switzerland, 26-28 June 2019](#));
- (c) Workshop on Culture Evolution ([Geneva, Switzerland, 11-13 September 2019](#));
- (d) Workshop on Statistical Data Collection 'New Sources and New Technologies' ([Geneva, Switzerland, 14-16 October 2019](#));
- (e) Workshop on Statistical Data Confidentiality ([the Hague, the Netherlands, 29-31 October 2019](#));
- (f) GSIM eTraining workshop ([Geneva, Helsinki, Oslo, Ottawa, Rome and Stockholm, 5 November 2019](#));
- (g) HLG-MOS Workshop on the Modernisation of Official Statistics ([Geneva, Switzerland, 18-20 November 2019](#))

13. Over 200 virtual meetings and six sprints were organized to advance the work of the projects, groups and steering committees. The various groups used 40 active wiki spaces with over 4,000 pages and more than 20,000 attachments to collaborate and to share outputs with a wider audience.

### **III. WORK PROGRAMME FOR 2020**

#### **A. Projects in 2020**

14. In December 2019, the HLG-MOS Executive Board recommended two projects for 2020. They were approved by the HLG-MOS in January 2020. They are outlined below.

##### **1. Machine Learning Phase II**

15. The proposal was prepared by the project managers and the current project members. After conducting a large number of pilot studies in 2019, the focus will now be on how to integrate Machine Learning in statistical organisations. The project will include the following work packages:

- (a) WP1: Demonstrating the value added of Machine Learning;
- (b) WP2: Quality framework components for evaluating Machine Learning processes and statistical procedures using them;
- (c) WP3: Integrating Machine Learning into the production of official statistics;

##### **2. Input Privacy-Preserving Techniques**

16. Statistical organizations are more and more investing on becoming part of a data ecosystem where they acquire and integrate data from multiple sources and provide richer statistical products. The goal of this project is to investigate modern and innovative privacy-preserving technics and methods that offer protection on the input side. This includes the issue of ‘social license’ in a broader context. Given the technical nature of the topic of this project, a virtual Sprint will be organized as soon as possible to further define and scope the work packages. The following work packages were initially defined:

- (a) WP1: Documenting statistical use-cases relevant for application of privacy-preserving;
- (b) WP2: Secure Multiparty Computation methods;
- (c) WP3: Homomorphic Encryption methods;
- (d) WP4: Identifying opportunities for operationalization of methods and sharing of solutions.

#### **B. Modernisation groups and network**

17. After an in-depth discussion by the experts attending the Modernisation Workshop 2019 and further prioritization by the Executive Board, HLG-MOS approved the 2020 work programme for the modernisation groups and network. New priorities may emerge during the year. In these cases, the proposed work will be presented to the Executive Board and potential realignment considered based on capacity. The following paragraphs outline the work that is planned to be undertaken by the modernisation groups and network.

##### **1. Capability and communication**

18. Communication was added to the Modernisation Group on Developing Organisational Capability, which was subsequently renamed into Capability and Communication Group. The group was chaired by Poland, but a new Chair will need to be

identified. The group will set up task teams to consider the following substantive topics during their monthly web conference meetings:

(a) Competencies training and development – The group will build a repository of best practices for training and the guidelines on training activities supporting the modernization process in line with the Statistical Training Framework.

(b) Future of work in the context of modernisation of the workplace – The activity will establish an inventory of modernisation topics currently being examined by other working groups within the HLG community. The group will develop better engagement and communication structures with these groups and collaborate to identify organisational capability challenges associated with outputs.

(c) Ethical leadership framework – the activity comprises the development of a common vocabulary and framework and concrete suggestions (Quick Guide) to support NSOs leadership in real-work-type situations as well as in implementing a behaviour in the work context based on the corporate social responsibility approach.

19. A virtual sprint was held early February to identify and prioritize activities related to communication. The following additional topics were selected:

(a) Culture change and internal communications strategy – based on the Strategic Communication Framework (SCF), the group will develop an internal communication strategy and tools for NSOs to implement culture change. It will integrate human resources management and training and communication aspects and strategies to have joint approaches.

(b) Social media strategies and other extensions will be made to complement the Strategic Communication Framework. The focus will be on adding case studies to the framework on using social media to disseminate statistics and to reach new users. Using social media for recruitment will be considered at a later stage (see para. 18 b).

(c) Training of all staff to communicate and to be ambassadors for official statistics. This will be a specific application of training activities to support modernisation in a statistical office (see para. 18 a).

20. The Capability and Communication Group will also organise the biennial Human Resources Management and Training workshop in September 2019 in Lisbon, Portugal. This year, it will be organized back-to-back with the Workshop on Dissemination and Communication of Statistics, with a joint day, which will cover joint topics such as employee engagement and involvement, and culture evolution and internal communication.

## **2. Supporting standards**

21. The Supporting Standards Group provides support for the implementation of the “ModernStats” models (GAMSO, GSBPM and GSIM) through a range of activities which include development, promotion and maintenance of the models. Currently, this group is chaired by Italy. The group has plenary meetings every month via web conferences. The group may have additional meetings or organise a sprint workshop to expedite the work progress, as necessary:

(a) Linking GSBPM and GSIM – This extension of a 2019 activity will continue to map the information objects of GSIM to the processes and sub-processes in GSBPM. The activity will create a governance model for GSIM-GSBPM mapping and create relevant documentation, including a communication paper and adding the relevant GSIM objects into the clickable GSBPM.

(b) Core Ontology for Official Statistics – This extension of an existing activity aims to create a common semantic model and vocabulary for official statistics. The core concepts that are cutting across different models were identified. The focus will now be on developing links with vocabularies in other models and establish the management and governance of these different initiatives.

(c) Metadata glossary – This existing activity needs an extension until April 2020 to finalize this alphabetically organized list of terms, their definitions, sources for the definitions, source of the term and explanatory texts.

(d) Updating GSIM – This activity aims to incorporate experiences from countries that have started to incorporate GSIM in their organization. Based on these experiences, a soft update of GSIM will be made to clarify ambiguous points and fix minor errors as well as to update the GSIM documents.

(e) Application of GSBPM for geospatial information – The activity will provide guidance on how to use GSBPM with geospatial information by extending the description in GSBPM focusing on activities needed for geospatial information.

22. In collaboration with the Sharing Tools Group, the Supporting Standards Group has set up an organising committee to organise the 3rd ModernStats World Workshop in 2020. The workshop aims to progress work on development and maintenance of the ModernStats models and provide a ModernStats models user platform. In particular, the workshop will: (i) promote the new developments of the ModernStats models and related works; (ii) increase the understanding of the models and interrelationships between them; (iii) facilitate sharing experiences, ideas and plans for modernising statistical production by implementing the models; and (iv) identify opportunities for additional international collaboration activities.

### **3. Sharing tools**

23. The Sharing Tools Group provides implementation support for the Common Statistical Production Architecture (CSPA) and works on further defining and promoting the shareability concept. The group has been chaired for four years by New Zealand and is now looking for a new chair(s). Extra meetings to progress on these topics will be held on an ad hoc basis. In addition to a monthly meeting, separate task teams will work on the following topics:

(a) Digital interactive CSPA document and promotion material – The existing activity, which did not materialize in 2019, comprises the development of an interactive digital version of the CSPA 2.0 documentation easily accessible for different users and with different knowledge of CSPA, and producing a set of CSPA promotion material.

(b) Modifying CSPA Catalogue and adding services – The group will focus on adding services to the catalogue and provide support to submitters and users of services. The catalogue will be aligned with the restated CSPA concept. Additionally, suggestions will be

made to redesign/repurpose the Global Artefacts Catalogue to better facilitate the identification of sharable statistical services. There are now forty services available through the catalogue.

(c) Streamlining CSPA and integrating new concepts and requirements – The activity aims to ensure that related models such as Common Statistical Data Architecture as well as the outcome of related projects are consistent with CSPA. Implications to CSPA of other new developments such as serverless architecture, notebook solutions, cloud-ready services have to be identified and documented.

24. In cooperation with the Supporting Standards Group, the Sharing Tools Group will organise through a joint Organisation Committee the 3rd ModernStats World Workshop planned for June 2020.

#### **4. Blue Skies Thinking Network**

25. The Blue Skies Thinking Network is the ideas factory of the ModernStats community. It is led by an innovation manager and consist of a core group comprised of around 10 members from various NSOs and international organisations. The core team aims at having in-depth as well as broad knowledge of innovation related aspects to facilitate the development of the work and of sufficient heterogeneity to allow for a variety of expertise and views. The core group draws from a flexible pool of resources to assist in the evaluation of proposals.

26. The group can also set up temporary activities to follow-up on project proposals that were not selected or activity proposals that were not assigned to a Modernisation Group. In 2020, the Network will elaborate further on these topics (other topics might be added throughout the year):

- (a) Data-driven decision-making support at local level;
- (b) Synthetic data for administrative purposes;
- (c) “StatsBots” as chatbots in the context of official statistics.

27. HLG-MOS members will bring the Network to the attention of their national innovation groups and actively stimulate generation of ideas for proposals to be submitted to the Network. To not only depend on proposals and ideas being brought to them, the Network will actively engage with the statistical community to identify potential topics that merit further consideration. BSTN will evaluate the ideas and propose some to the Executive Board when they merit further consideration.

#### **C. Workshops and work sessions**

28. The four Modernization Groups will organise several workshops to support their work and to share experiences and progress with a wider audience. Several other workshops and work sessions will be organized under the auspices of HLG-MOS. The focus is always on innovative developments and modernization. Another key output is the identification of areas for future work and collaboration. The target audience for these workshops includes senior and middle-level managers. They are organized by the UNECE secretariat in collaboration with Organizing Committees consisting of experts. In 2020, the following workshops will take place:

(a) Workshop on Statistical Data Dissemination and Communication, 7-9 September, Lisbon, Portugal – the focus of the workshop will be on cutting edge ideas, new trends, experiments and approaches in the areas of statistical data dissemination and communication. This workshop and the Workshop on Culture Evolution (HRMT), will be organized back-to-back.

(b) Work Session on Statistical Data Editing, 15 – 17 April, Geneva, Switzerland – The workshop will identify new methods that can improve the quality and efficiency of Editing and Imputation (E&I); Investigate the statistical quality risks arising from using new methods and data sources and the ways to address them; Develop approaches to standardizing and implementing statistical editing functionalities; Facilitate the sharing of experiences, ideas and tools for modernizing statistical data E&I process. Topics include methods for machine learning and time series data and new emerging methods.

(c) Workshop on Statistical Data Collection, October, venue to be determined – The objective of this workshop is to identify innovative ways and best practices in statistical data collection, and to provide a platform for practitioners to exchange experiences and foster collaboration in this area. The workshop has several interactive items and also provides a market place for exchange of services.

#### **D. Monitoring progress and coordination**

29. The work of the Groups and projects is reported on a monthly basis at the [HLG MOS ModernStats wiki](#). The Executive Board discusses the modernization updates and evaluates the progress together with the chairs of the groups and the project managers in their monthly meeting. If needed, the work program is adjusted. There is also a conscious effort to ensure that all activities are continuously aligned and coordinated with other international initiatives like the programs under the European Statistical System and the UN Global Platform.

#### **E. Involvement in modernisation activities**

30. As the work on modernising official statistics continues to grow and succeed, more national and international statistical organizations are looking for ways to align with the various HLG-MOS initiatives. In 2019, over 100 national and international statistical organisations actively participated in the HLG-MOS work program and more than 750 experts participated in at least one of HLG-MOS activities.

31. There are various ways in which statistical organizations can participate:

(a) Join the Statistical Modernisation Community – It is open to all interested statistical organizations that are willing and able to work together on aspects of statistical modernisation, and that publicly endorse a “Statement of Intent”. For more information, please see: [https://statswiki.unece.org/x/ZQYpBw](https://statswiki.unece.org/x/ZQYpBw;);

(b) Get involved in projects and groups – Membership of the various projects and groups is open to anyone working in official statistics who is prepared to contribute actively to the activities of a project or group;

(c) Participate in the workshops organized within the HLG-MOS framework;

(d) Follow the outcomes of HLG-MOS activities – Updates and outputs are regularly posted on the HLG-MOS wiki: <http://www1.unece.org/stat/platform/display/hlgbas>.



Information about new products and initiatives is also shared via the LinkedIn group “Modernising Official Statistics”.

#### **IV. PROPOSAL TO THE BUREAU**

##### **32. The Bureau is invited to:**

**(a) Comment on the achievements in 2019 and make recommendations on the work programme for 2020;**

**(b) Express views on the focus of work under HLG-MOS;**

**(c) Participate in the projects and modernisation groups;**

**(d) Participate and/or host expert workshops and sprint workshops.**

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