



HLG-MOS Modernisation Workshop 2022

Brief History of Modernisation

12th Annual Workshop of the High-Level Group for the
Modernisation of Official Statistics
22-23 November 2022



Intro slide HLG-MOS

- 2010: High-level group on strategic developments in businesses architecture in statistics (HLG-BAS) created by the Bureau of the Conference of European Statisticians [NL, AU, IT, SL, US & Eurostat, OECD, UNECE]
- 2013: High-level Group for the Modernisation of Statistical Production and Services
 - Trust Fund setup in 2013 & new group structure established (including Executive Board)
- 2015: High-level Group for the Modernisation of Official Statistics (HLG-MOS)
 - Branded as ModernStats
- Chairs:
 - Gosse van der Veen (Statistics Netherlands) 2010-2013
 - Pdraig Dalton (CSO Ireland) 2014-2017
 - Anil Arora (Statistics Canada) 2018-



Current Members HLG-MOS and Executive Board

- Anil Arora (Canada) *Chair*
- David Gruen (Australia)
- Pádraig Dalton (Ireland)
- Gian Carlo Blangiardo (Italy)
- Graciela Márquez Colín (Mexico)
- Angelique Berg (Netherlands)
- Mark Sowden (New Zealand)
- Dominik Rozkrut (Poland)
- KeunKwan Ryu (Republic of Korea)
- Ian Diamond (United Kingdom)
- Mariana Kotzeva (Eurostat)
- Paul Schreyer (OECD)
- Lidia Bratanova (UNECE)
- Jennifer Banim (Ireland) *co-chair*
- Stéphane Dufour (Canada) *co-chair*
- Anders Holmberg (Australia)
- Mikko Lindholm (Finland)
- Orietta Luzi (Italy)
- Sergio Carrera (Mexico)
- Joost Huurman (Netherlands)
- Vince Galvin (New Zealand)
- Emanuele Baldacci (Eurostat)
- *Chairs of Modernisation groups and project managers: see presentations today and yesterday*

Statement of Intent

The community is a **semi-formal alliance**, open to any organisation working in the field of official statistics

Partners in the community are expected **to actively support the goals of the community**

The resources available to the community will be used to **support standards-based modernisation** through **international collaboration**

Community **activities** will be **limited** to a maximum **duration** of one year, after which they will be reviewed

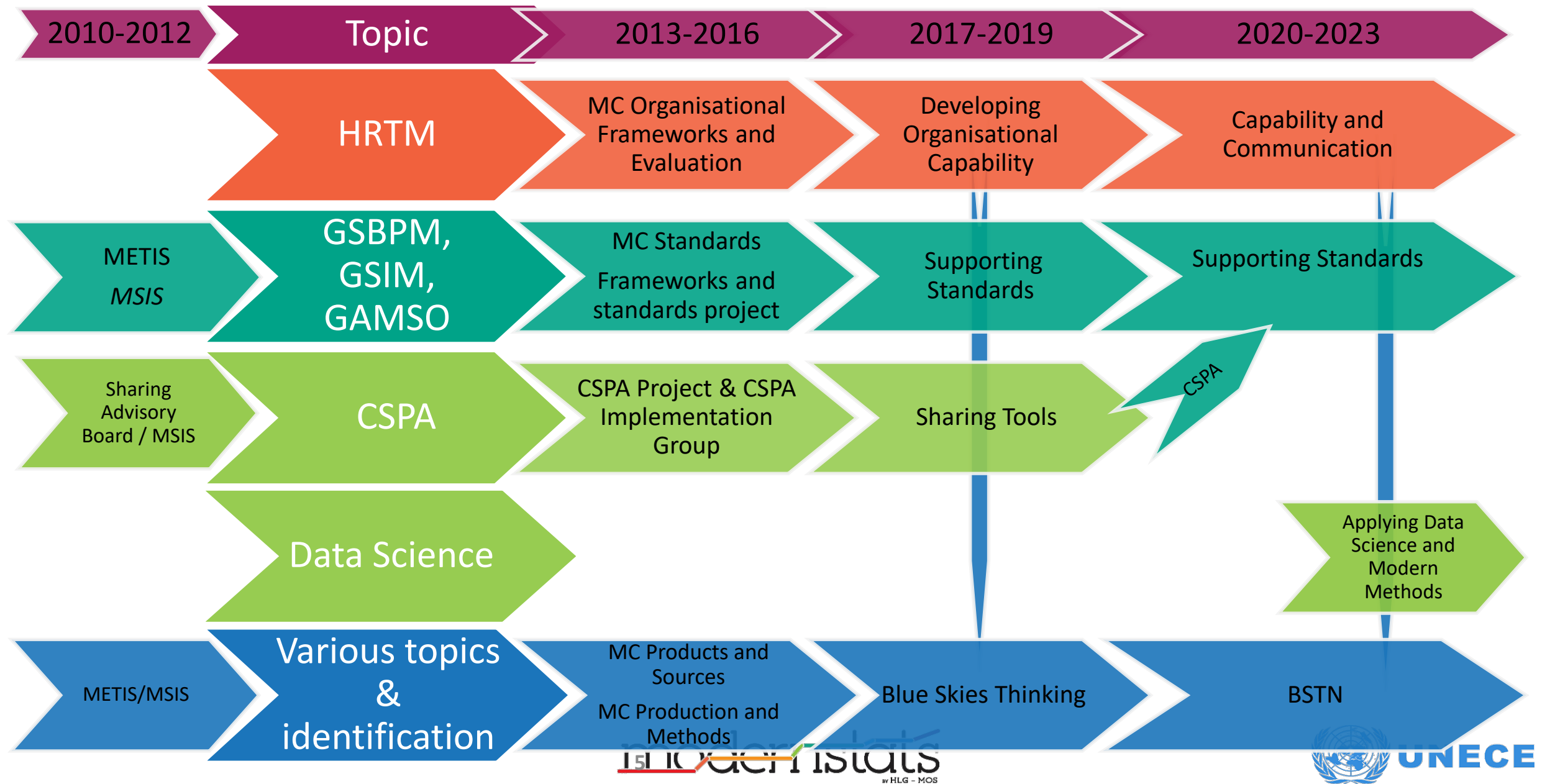
All community **activities** are **voluntary**

The community is the “owner” of products developed or produced as a result of community activities and projects

The UNECE Secretariat will support and facilitate the work of the community and the HLG-MOS

- **Australian Bureau of Statistics**
- **Central Bureau of Statistics (Netherlands)**
- **Central Statistics Office (Ireland)**
- **Eurostat**
- **Hungarian Central Statistical Office**
- **INEGI (Mexico)**
- **Istat (Italy)**
- **OECD Statistics Directorate**
- **Puerto Rico Institute of Statistics**
- **Statistical Office of the Republic of Serbia**
- **Statistical Office of the Republic of Slovenia**
- **Statistics Canada**
- **Statistics Korea**
- **Statistics New Zealand**
- **Statistics Poland**
- **Statistics Sweden**
- **Statistical Office of Montenegro**
- **UNECE Statistical Division**

Group Structure 2013-2022



HLG-MOS Projects

- 2012: Generic Statistical Information Model (GSIM)



- 2013: Frameworks and Standards for Statistical Modernization



- 2014-2015: Common Statistical Production Architecture I & II (CSPA)



- 2014-2015: Big Data for Official Statistics I & II



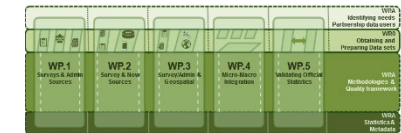
- 2016: Implementing ModernStats Standards

- Linked Statistical Metadata
- Roadmap for implementing standards



- 2016-2017: Data Integration Project I & II

- 2017-2018: Data Architecture Project I & II



HLG-MOS Projects

- 2018-2019: Strategic Communication Framework I & II



- 2019-2020: Machine Learning I & II



- 2021: Synthetic Data Guide



- 2021-2022: Input Privacy-preserving Techniques I & II



- 2022: Meta-Academy for the Modernization of Official Statistics



- 2022: Data Governance for Interoperability Framework



- 2023: Data Governance Framework for Data Interoperability; ModernStats Carpentries; Robotic Process Automation; Cloud Usage for Official Statistics; Linking and Querying Statistical Classifications through the Semantic Web Standards

Expert Meetings, Workshops, Webinars and Sprints 2010-2022

- HLG-MOS workshop on the Modernisation of Official Statistics, 22-23 November 2022, Geneva
 - *Meta Academy Seminar 24 November*
 - *Input Privacy-Preservation Techniques Seminar 24 November*
- HLG-MOS workshop on the Modernisation of Official Statistics, 15-16 November 2021, online
 - *Synthetic Data Webinar, 17 November 2021*
 - *Input Privacy-Preservation Webinar, 18 November 2021*
 - *Machine Learning Community Webinar, 19 November 2021*
- HLG-MOS workshop on the Modernisation of Official Statistics, online, 18-19 November 2020
 - *Statsbots Webinar, 20 November 2020 (BSTN subgroup event)*
 - *Machine Learning Project Webinar, 16-17 November, Online (public event)*
- HLG MOS Workshop on the Modernisation of Official Statistics, Geneva, 18-20 November 2019
- HLG MOS Workshop on the Modernisation of Official Statistics, Geneva, 27-28 November 2018
- HLG MOS Workshop on the Modernisation of Official Statistics, Geneva, 22-23 November 2017
- HLG-MOS Workshop on Modernising Official Statistics, Geneva, 22-23 November 2016
- HLG-MOS Workshop on the Modernisation of Official Statistics, The Hague, 24-25 November 2015
- HLG-MOS Workshop, Geneva, 19-20 November 2014
- HLG-MOS Workshop, Geneva, 25-27 November 2013
- HLG-MOS Workshop, Geneva, 7-8 November 2012
- HLG-MOS Workshop, Geneva, 31 October - 1 November 2011
- HLG Seminar on the Process Oriented Approach, 19-21 April 2017, Korea
- HLG-MOS Sprint Session: Strategies to stay relevant

Expert Meetings, Workshops, Webinars and Sprints 2010-2022

- ModernStats World Workshop 2022, 27-29 June 2022, Belgrade, Serbia
- ModernStats World Workshop 2020, 27-30 October 14:00-17:00 CET, online (changed from Belgrade to online event)
- GSIM eTraining workshop, 5 November 2019, online
- ModernStats World Workshop 2019, Geneva, 26-28 June 2019
- Sub-Regional Workshop on Statistical Production Architecture and Software Sharing, Belgrade, 5-6 December 2018
- ModernStats World Workshop 2018, Geneva, 11-13 April 2018
- Workshop on Integrating Geospatial and Statistical Standards, Stockholm, 6-8 November 2017
- CSPA for Digital Transformation Workshop, Wiesbaden, 3-5 July 2017
- Workshop on Implementing Standards for Statistical Modernisation, Geneva, 21 - 23 September 2016
- CSPA Implementation Workshop 2016, Geneva, 22-24 June 2016
- Workshop on the Modernisation of Statistical Production, Geneva, 15 - 17 April 2015
- Workshop of the Modernisation Committee on Standards: International Collaboration for Standards-Based Modernisation, Geneva, 5 -7 May 2015
- Big Data project workshop, 9-12 September 2014, Heerlen, the Netherlands
- Rosstat/EFTA/UNECE Workshop on Modernization of Official Statistics, Nizhny Novgorod, 10 - 12 June 2014
- Big Data Sandbox project training, 28-30 May 2014, Rome, Italy
- Meeting on the Management of Statistical Information Systems, Dublin, 14 - 16 April 2014
- Work Session on Statistical Metadata, Geneva, 6 - 8 May 2013
- Meeting on the Management of Statistical Information Systems, Paris, 23 - 25 April 2013
- Workshop on Strategic Developments in Business Architecture in Statistics, Geneva, 7 - 8 November 2012 (HLG-MOS Workshop)
- High-level Seminar on Modernization of Statistical Production and Services, St. Peterburg, 3 - 5 October 2012
- Meeting on the Management of Statistical Information Systems, Washington D.C., 21 - 23 May 2012
- Workshop on Statistical Metadata: Implementing the GSBPM and Combining Metadata Standards, Geneva, 5 - 7 October 2011
- EFTA / Eurostat / UNECE High-level Seminar on Streamlining Statistical Production, Zlatibor, 7 - 8 July 2011
- Meeting on the Management of Statistical Information Systems, Luxembourg, 23 - 25 May 2011
- Meeting on the Management of Statistical Information Systems-2010, Meeting on the Management of Statistical Information Systems-2010, Daejeon, 26 - 29 April 2010 Daejeon, 26 - 29 April 2010
- Work Session on Statistical Metadata, Geneva, 10 - 12 March 2010

Expert Meetings, Workshops, Webinars and Sprints 2010-2022

- ONS International Data Science Meeting, 12-14 July, Newport, UK
- UNECE/ONS Machine Learning Group sprint sessions 12-14 July
- HLG-MOS Blue Skies Thinking Network sprint sessions 12-13 July
- HLG-MOS Executive Board meeting 12 July
- HLG-MOS Implementing Data Science and Modern Methods sprint sessions 13-14 July
- BSTN Cloud for Statistics Workshop, 29 June 2022, Belgrade, Serbia
- Chief Statisticians Sprint, 10 March 2022, online
- Synthetic Data Challenge, 24-28 January 2022
- Synthetic Data Webinar, 17 November 2021
- Input Privacy-Preservation Webinar, 18 November 2021
- Machine Learning Community Webinar, 19 November 2021
- Linking GSBPM-GSIM task team sprint 2-3 February 2021, online
- Statsbot Webinar, 20 November 2020, online (public event BSTN subgroup)
- Machine Learning Project Webinar, 16-17 November, online (public event UNECE project)
- Machine Learning Project online sessions, 13-15 October (internal)
- Machine Learning Sprint, 1-3 April 2020, Virtual (Webex)
- Machine Learning Sprint, 18-20 September 2019, Belgrade, Serbia
- Complementary Skills Sprint, 10 September 2019, Geneva, Switzerland
- Strategic Communication Framework Project – Phase 2 Sprint, 10-12 June 2019, Gdansk, Poland
- Strategic Communication Framework Phase 2 Sprint, 30 April - 2 May 2019, Geneva, Switzerland
- Machine Learning Sprint, 13-15 May 2019, London & New Port, United Kingdom
- GSIM revision virtual sprint 23-24 January 2019
- CSPA Data Architecture Spring Toulouse, 15-17 October 2018
- Common Statistical Data Architecture Sprint, 25-28 September 2018, Warsaw, Poland
- Strategic Communication Framework Sprint, 28 June 2018, Cork, Ireland
- Common Statistical Data Architecture Sprint, 15-18 May, Belgrade, Serbia
- Strategic Communication Framework Sprint, 12-16 February 2018, Geneva, Switzerland
- CSPA Architecture Patterns Sprint 29 January - 2 February 2018, Oslo, Norway
- HLG-MOS Sprint Session. Innovative organizations: Strategies to stay relevant, 21 November 2017, Geneva, Switzerland
- Data Architecture Project Sprint, 3-5 October 2017, Heerlen, the Netherlands
- Data Integration Project Sprint, 27-30 June 2017, Belgrade, Serbia
- LIM Variable Sprint, 19-23 June 2017, Ottawa, Canada
- Data Architecture Project Sprint, 8-10 May 2017, Rome, Italy
- CSPA Architecture Patterns Sprint, 3-5 May 2017, Rome, Italy
- Linked Open Data Sprint, 12-14 September 2016, Rome, Italy
- Data Integration Project Sprint 24-25 August 2016, Budapest, Hungary
- Big Data Sprint, 20-24 September 2015, Ljubljana, Slovenia
- Big Data Sprint, June 2015, Cork, Ireland
- CSPA Investment Sprint, 16-20 March 2015, Canberra, Australia
- CSPA Information Architecture Sprint, 23-27 February 2015, Ottawa, Canada
- Big Data Partnerships Virtual Sprint, October 2014
- Big Data Quality Virtual Sprint, September 2014
- Big Data Project Workshop, 2-3 April 2014, Rome, Italy
- Big Data virtual sprint, March 2014
- CSPA Proof of Concept Design Sprint, 10-14 June 2013, Rome, Italy
- Architecture Sprint, 8-12 April 2013, Ottawa, Canada
- GSIM Integration Workshop, 17-21 September 2012, the Hague, the Netherlands
- GSIM Sprint, 16-27 April 2012, Daejeon, South Korea
- GSIM Sprint, 20 February - 2 March 2012, Ljubljana, Slovenia

Expert Meetings, Workshops, Webinars and Sprints 2010-2022

- *Workshop on Human Resource Management and Training, 11-13 October, Brussels, Belgium*
- *Online meeting on the COVID-19 response in the area of Communication and HRMT 7-11 September (Replaced the Workshop on Human Resources Management and Training, 9-11 September 2020 Lisbon, Portugal)*
- *Workshop on Culture Evolution, 11-13 September 2019, Geneva, Switzerland*
- *Workshop on Human Resources Management and Training, Oslo, 12 - 14 September 2018*
- *Workshop on Implementing Efficiencies and Quality of Output, Geneva, 27 - 29 September 2017*
- *Workshop on Human Resources Management and Training: Developing Capabilities for the Future, Krakow, 7 - 9 September 2016*
- *Workshop on Risk Management practices in Statistical Organisations, Geneva, 25 - 26 April 2016*
- *Workshop on Human Resources Management and Training: Modernising statistics - how to get there?, Geneva, 15 - 17 October 2014*
- *Workshop on Human Resources Management and Training in Statistical Offices, Budapest, 5 - 7 September 2012*
- *Workshop on Human Resources Management and Training in Statistical Offices, Geneva, 14 - 16 September 2010*
- *Expert Meeting on Dissemination and Communication of Statistics, 13-15 September, online*
- *Expert Meeting on Dissemination and Communication of Statistics, 11-14 October 2021, online Lisbon Portugal due to Covid)*
- *Online meeting on the COVID-19 response in the area of Communication and HRMT 7-11 September (Replaced the Workshop on Statistical Data Dissemination and Communication, 7-9 September 2020, Lisbon, Portugal)*
- *Workshop on Statistical Data Dissemination and Communication, 12-14 June 2019, Gdansk, Poland*
- *Workshop on the Dissemination and Communication of Statistics, 25-27 June 2018, Cork Ireland*
- *Data Dissemination and Communication Workshop, 28-30 June 2017, Geneva, Switzerland*
- *Data Dissemination and Communication Workshop, 5-7 October 2016, The Hague, the Netherlands*
- *Workshop on the Communication of Statistics, 27-29 April 2015, Washington, D.C., USA*
- *Work Session on the Communication of Statistics, 18-20 June 2014, Geneva, Switzerland*
- *Work Session on the Communication of Statistics, 27 - 29 May 2013, Berlin, Germany*
- *Work Session on the Communication of Statistics, 27-29 June 2012, Geneva, Switzerland*
- *Work Session on the Communication of Statistics, 29 June-1 July 2011, Geneva, Switzerland*
- *Work Session on the Communication of Statistics, 30 June-2 July 2010, Paris, France*

Expert Meetings, Workshops, Webinars and Sprints 2010-2022

- Expert Meeting on Statistical Data Collection 'Towards a New Normal?', 26-28 October, Rome, Italy
- Expert Meeting on Statistical Data Collection, 27-30 September 2021, online
- Data Collection and the impact, challenges and opportunities of the COVID-19 pandemic: online workshop 5 – 8 October 2020 (Replaced the Workshop on Statistical Data Collection, 5-7 October 2020)
- 'New Sources and New Technologies', 14-16 October 2019, Geneva, Switzerland
- 'Resourceful Data Acquisition', 10-12 October 2018, Geneva, Switzerland
- 'Overcoming Challenges through Modernisation' , 10-12 October 2017, Ottawa, Canada
- 'Visions on Future Surveying', 3 – 5 October 2016, the Hague, the Netherlands
- Riding the Wave of the Data Deluge, 29 April – 1 May 2015, Washington D.C., United States of America
- Seminar on statistical data collection, 25 - 27 September 2013, UNECE, Switzerland, Geneva
- New frontiers in statistical data collection, 31 October - 2 November 2012, UNECE, Switzerland, Geneva
- Expert Meeting on Statistical Data Editing, 3-5 October 2022, online
- Workshop on Statistical Data Editing, 15-17 April 31 August- 4 September 2020, online (Postponed and Changed an online event)
- Workshop on Statistical Data Editing, 18-20 September 2018, Neuchatel, Switzerland
- Work Session on Statistical Data Editing, 24-26 April 2017, The Hague, Netherlands
- Work Session on Statistical Data Editing, 14-16 September 2015, Budapest, Hungary
- Work Session on Statistical Data Editing, 28-30 April 2014, Paris, France
- Work Session on Statistical Data Editing, 24-26 September 2012, Oslo, Norway
- Work Session on Statistical Data Editing, 9-11 May 2011, Ljubljana, Slovenia
- Expert meeting on Statistical Data Confidentiality, 1-3 December 2021, Poznan, Poland (if Covid permits: to be confirmed)
- 2019 Work Session on Statistical Data Confidentiality, 29-31 October 2019, the Hague, the Netherlands
- 2017 Work Session on Statistical Data Confidentiality, 20-22 September 2017, Skopje, North Macedonia
- 2015 Work Session on Statistical Data Confidentiality, 5-7 October 2015, Helsinki, Finland
- 2013 Work Session on Statistical Data Confidentiality, 28-30 October 2013, Ottawa, Canada
- 2011 Work Session on Statistical Data Confidentiality, 26-28 October 2011, Tarragona, Spain

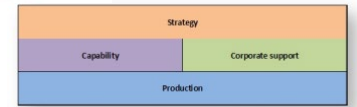
HLG-MOS models and Standards













- **Generic Statistical Business Process Model 5.1** ([GSBPM](#))
- **Generic Statistical Information Model 1.2** ([GSIM](#))
- **Common Statistical Production Architecture 2.0** ([CSPA](#))
- **Generic Activity Model for Statistical Organizations 1.2** ([GAMSO](#))
- **Generic Statistical Data Editing Model 2.0** ([GSDEM](#))
- **Common Statistical Data Architecture 2.0** ([CSDA](#))

- Various Revision & updates
- Metadata Glossary
- Alignment of GSBPM OP with GAMSO
- GSBPM Quality Indicators
- Linking GSBPM and GSIM
- GeoGSBPM
- ModernStats model governance guide
- CSPA Global Artefacts Catalogue

- GSBPM "Task"
- Roadmap for Implementing ModernStats Standards
- CSPA Logical Information Model (CSPA LIM)
- Linked Metadata & Core Ontology
- CSDA ArchiMate model and guidelines
- ModernStats World and other Workshops

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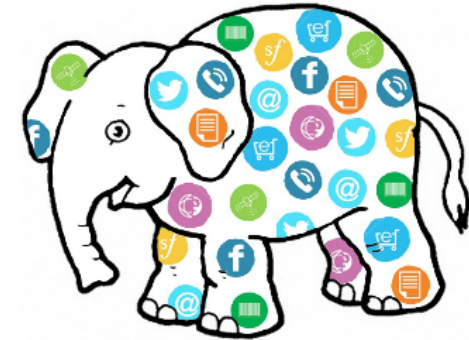


	GSBPM Current version of GSBPM v5.1 available here
	Roadmap for Implementing ModernStats Standards Modernisation Maturity Model (MMM) and MMM Roadmap Tools
	Information flow within GSBPM using GSIM New Information flow within GSBPM described using Generic Statistical Information Model (GSIM)
	Geospatial view of GSBPM New Geospatial-related activities and considerations needed for the production process
	GSBPM Tasks New Finer-level of activities under the eight phases of the process and sub-processes
	Clickable GSBPM Clickable GSBPM v5.1
	Learning GSBPM Are you new to GSBPM and want to learn about it? Check out here for introductory presentations from past training and workshops
	Uses of GSBPM Use cases of GSBPM (mapping specific processes to GSBPM, using GSBPM for managing statistical programmes and etc.)
	Quality Indicators for GSBPM Quality indicators for each GSBPM subprocess
	Previous versions of GSBPM Previous versions of GSBPM (v1.0, v2.0, v3.1, v4.0 and v5.0)
	GSBPM resources repository Click here to browse all resources in the GSBPM wiki space and search by
	GSBPM Discussion Forum Questions about GSBPM? Post them here!

Initiating/Leading work in Official Statistics

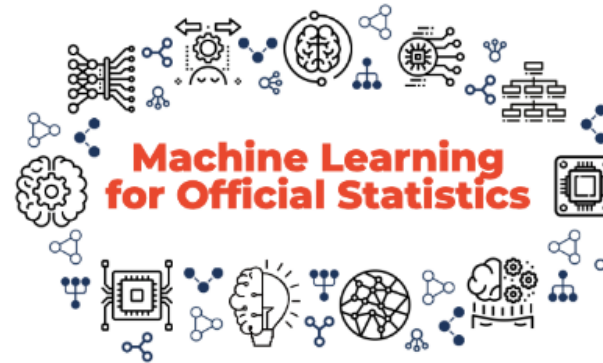
• Big Data:

- Classification of Types of Big Data
- Guidelines for the establishment and use of partnerships
- Big Data Quality Framework
- Big Data Inventory
- Etc. etc..



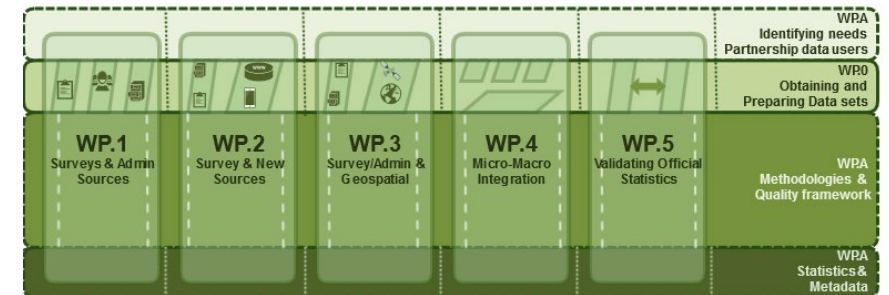
• Machine Learning

- Ethical Consideration in the Use of ML
- Quality Framework for Statistical Algorithm
- Model Retraining
- Training & learning material
- Etc. etc.....



• Data Integration

- Guide to Data Integration for Official Statistics
- Data integration use cases
- Data integration survey
- *Asia-Pacific Guidelines to Data Integration for Official Statistics*

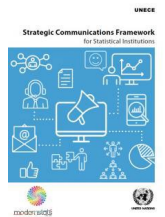


Initiating/Leading work in Official Statistics HRMT

- Guidelines for Managers
- Guidelines on Risk Management
 - risk appetite as a framework for decision making
 - training modules in the various stages of risk management
 - common risks faced by statistical organisations
- Strategic Communication Framework
- Brand and reputation management
- Toolkits for blended working for: manager, employer and employee
- And more....
 - Key Capabilities for Modernising Statistical Organisations
 - Visions, Missions and Target Operating Models
 - Statistical and End User IT Training Framework - based on GSBPM Model (2017)
 - Statistical Training Framework aligned to the GSBPM
 - organisational barriers to international cooperation
 - Big Data competencies profiles
 - Etc..

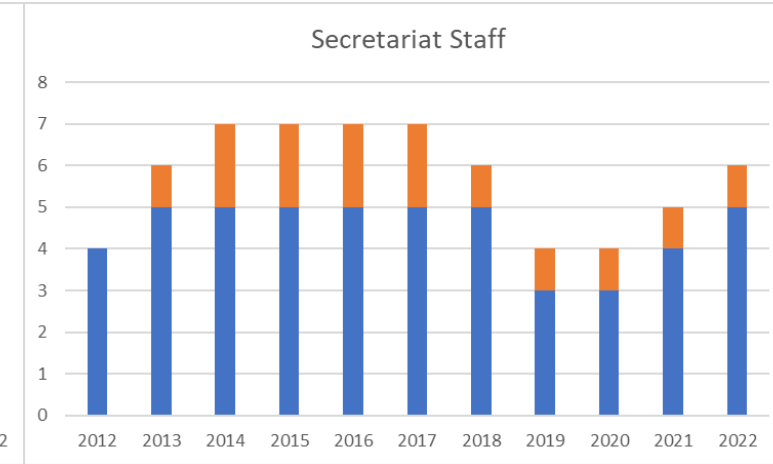
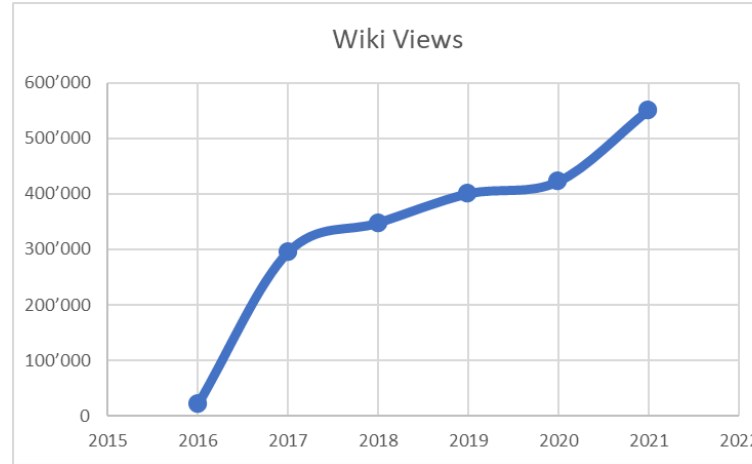


Human resources
and more...



Resources/tools

- Secretariat: 6
- Project Manages: 4
- Wiki (2022: 50 spaces)
- Tools: Github, Slack, Slido, Miro, Jamboard44 etc.
- Webex/Teams (2022: >250 calls)
- Expert meetings, Workshops, Sprints, Pitch talks etc.



Jackie (Wai Kit)
Taeke
Chris
Gerald
Tetyana
InKyung



HLG-MOS thanks you for your involvement in the past years and looks forward to your continued collaboration

