



Big Data for Official Statistics

UN Global Working Group on the Use of Big Data for Official Statistics

Regional workshop on the use of mobile phone data, 11 – 14 June 2019, Jakarta, Indonesia

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United Nations Statistics Division



Overview

- UN GWG on Big Data for Official Statistics
- UN GWG: Task Teams
- UN GWG – TT on the Use of Mobile Phone Data: Project on Human mobility

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UN Global Working Group on Big Data for Official Statistics

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UN Big Data for Official Statistics

The statistical community has the obligation of exploring the use of new data sources, such as Big Data, to meet the expectation of the society for enhanced products and improved and more efficient ways of working. Big Data could also support the monitoring of the Post-2015 development goals by improving timeliness and relevance of indicators without compromising their impartiality and methodological soundness.

Global Working Group

Recognising the need for further investigating the benefits and challenges of Big Data for official statistics the Statistical Commission agreed at its 45th meeting in March 2014 to create the Global Working Group (SWG) on Big Data for Official Statistics.

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Big Data for Official Statistics

Drivers:

- **Availability of automatically generated data** in electronic format, such as mobile phone, social media, electronic commercial transactions, sensor networks, smart meters, GPS tracking device, or satellite images
- **Higher frequency, more granularity, wider coverage, lower cost for data collection**
- **Modernisation of statistical production and services & the 2030 Agenda for sustainable development**

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United Nations Global Working Group on Big Data for Official Statistics

- Created in March 2014
- 44 members (28 countries and 16 international agencies)
- 8 Task Teams
- Preparation of Handbooks and training materials
- Conducting training workshops and international conferences
- UN Global Platform with joint projects
- Reporting to the United Nations Statistical Commission

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Composition of the GWG

Countries:

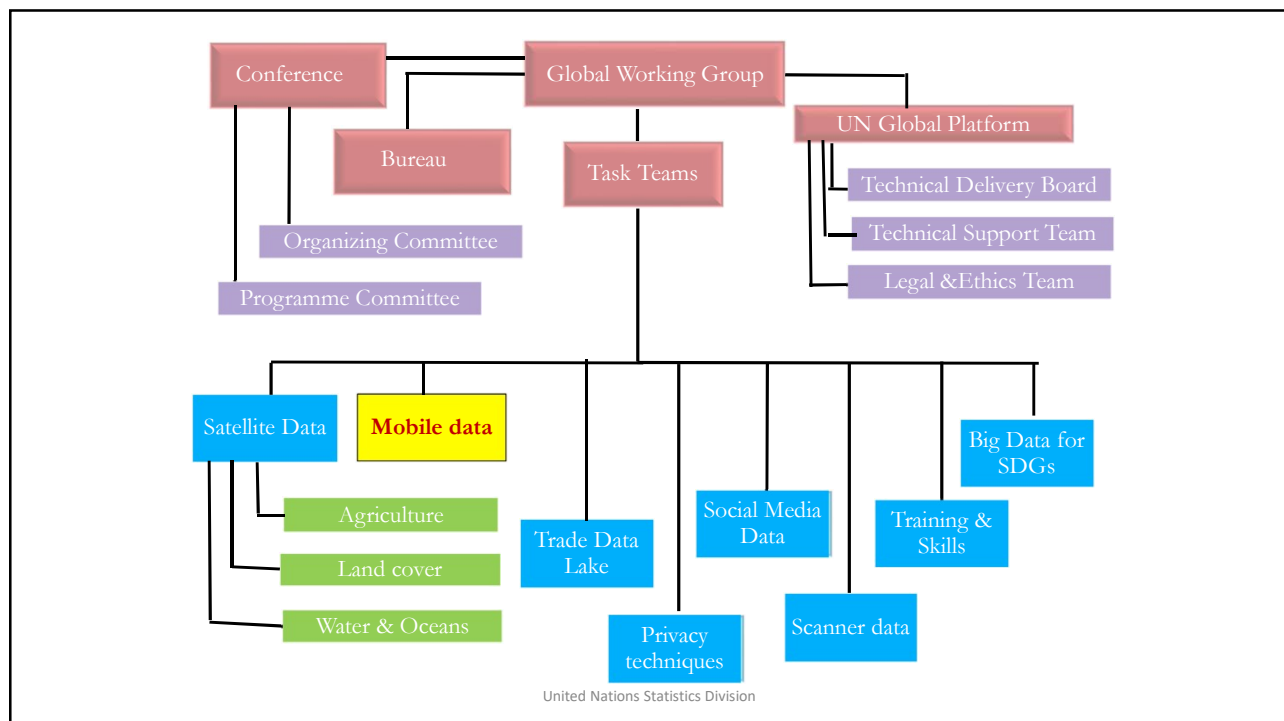
- Australia, Bangladesh, Brazil, Cameroon, Canada, China, Colombia, Denmark, Egypt, Georgia, Germany, Indonesia, Ireland, Italy, Mexico, Morocco, Netherlands, Oman, Pakistan, Philippines, Poland, Republic of Korea, Saudi Arabia, Switzerland, UAE, UK, Tanzania, US

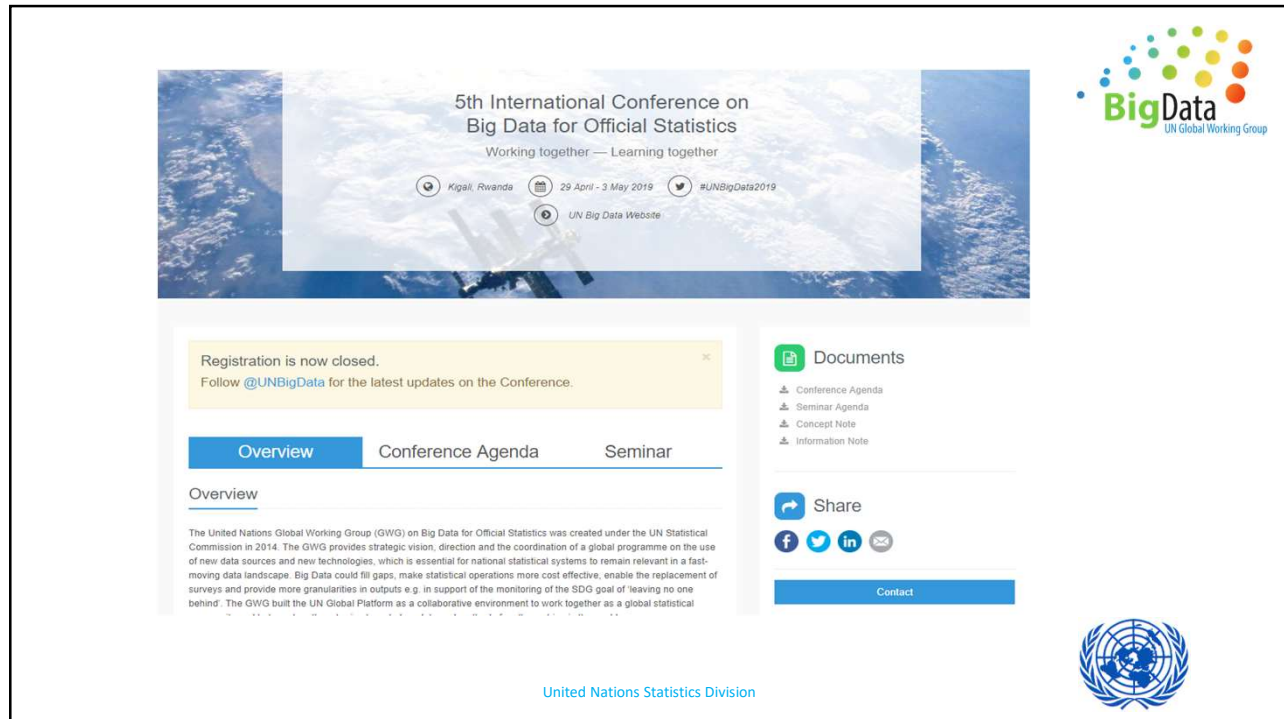
Organizations:

- AfDB, CARICOM, Eurostat, FAO, IMF, OECD, GCC-Stat, ITU, UN GP, UNECA, UNECE, UNESCAP, UN SIAP, UNSD, UPU, WB



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5th International Conference on
Big Data for Official Statistics

Working together — Learning together

Kigali, Rwanda 29 April - 3 May 2019 #UNBigData2019
UN Big Data Website

Registration is now closed.
Follow @UNBigData for the latest updates on the Conference.

Overview Conference Agenda Seminar

Overview

The United Nations Global Working Group (GWG) on Big Data for Official Statistics was created under the UN Statistical Commission in 2014. The GWG provides strategic vision, direction and the coordination of a global programme on the use of new data sources and new technologies, which is essential for national statistical systems to remain relevant in a fast-moving data landscape. Big Data could fill gaps, make statistical operations more cost effective, enable the replacement of surveys and provide more granularities in outputs e.g. in support of the monitoring of the SDG goal of 'leaving no one behind'. The GWG built the UN Global Platform as a collaborative environment to work together as a global statistical


Documents

- Conference Agenda
- Seminar Agenda
- Concept Note
- Information Note

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UN Global Platform - what will be delivered?

- A federated technical infrastructure which allows **Trusted Partners** to access and collaborate with:
 - **Trusted Data**
 - **Trusted Methods**
 - **Trusted Learning** materials
- The platform gives you access to global data sets, to the latest (Cloud) technology and to a network of experts and data scientists. They will help to run your projects.

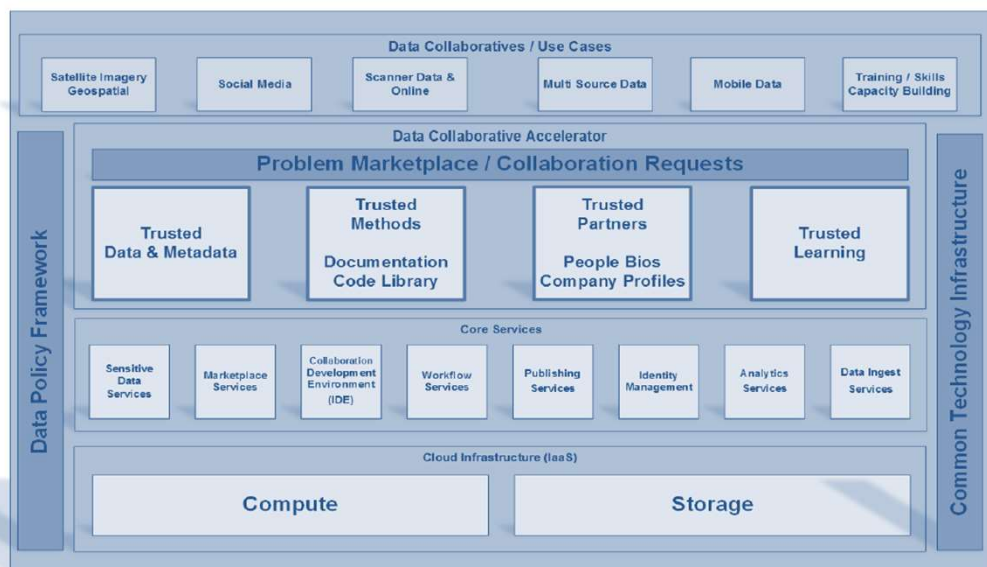
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Why UN Global Platform?

- **Global data sets, Common methods, Shared services**
- **Working together** – Global collaboration: developing and testing new methods
- **Learning together** – Capacity Development and Training materials
- **NSOs need to modernize faster – together**



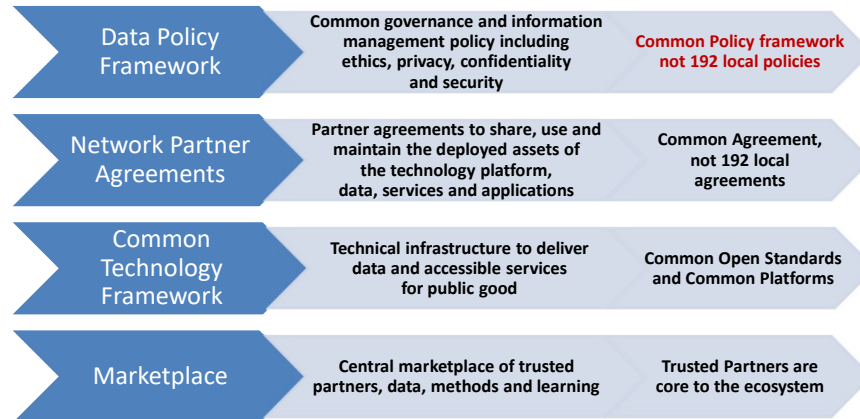
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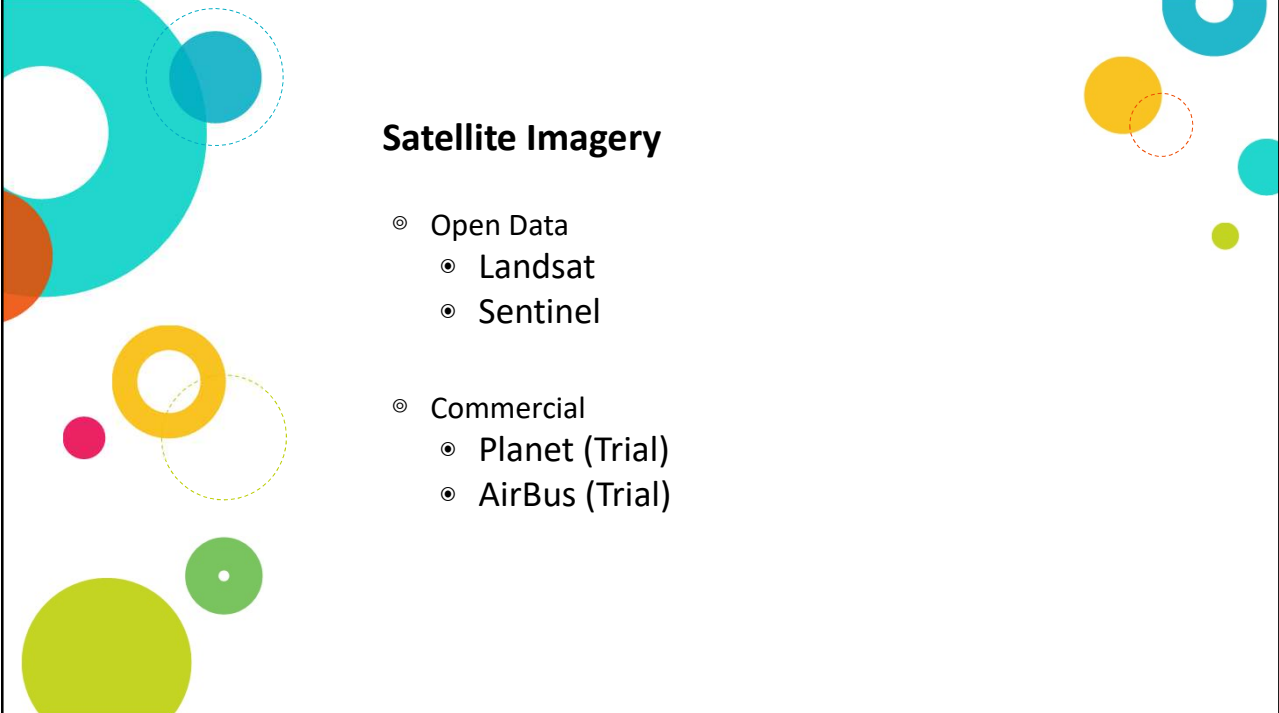
Trusted Partner Benefits



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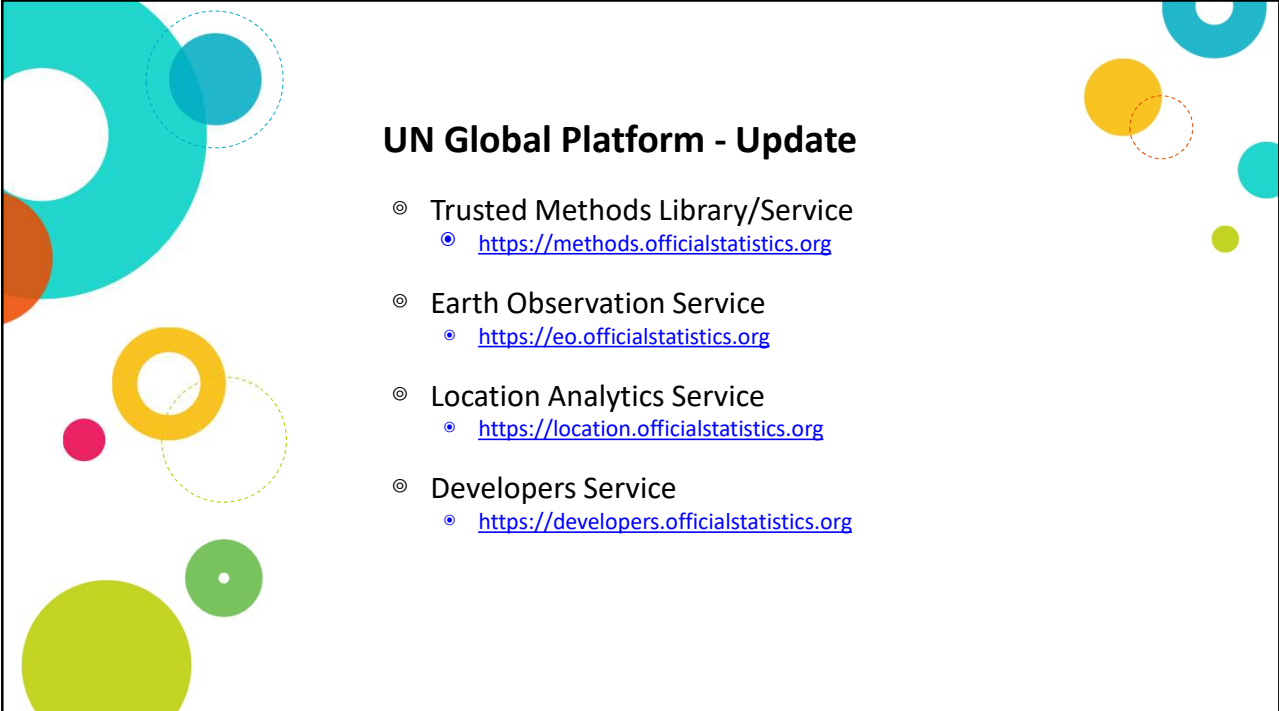


UN Global Platform Datasets




Satellite Imagery

- ⊙ Open Data
 - ⊙ Landsat
 - ⊙ Sentinel
- ⊙ Commercial
 - ⊙ Planet (Trial)
 - ⊙ AirBus (Trial)



UN Global Platform - Update

- ⊙ Trusted Methods Library/Service
 - ⊙ <https://methods.officialstatistics.org>
- ⊙ Earth Observation Service
 - ⊙ <https://eo.officialstatistics.org>
- ⊙ Location Analytics Service
 - ⊙ <https://location.officialstatistics.org>
- ⊙ Developers Service
 - ⊙ <https://developers.officialstatistics.org>



Online Community


- ◎ Collaboration
- ◎ 200+ people in 14 timezones
- ◎ 4,000+ messages over last 30 days
- ◎ Algorithms, Data, Services, Methods, AIS, ADS-B, Cloud Vendors, Privacy Task Team, Task Teams

◎ Join (<http://bit.ly/join-ungp-slack>)


#UNGlobalPlatform

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9



UN GWG – Task Teams



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TASK TEAMS

- Access and Partnerships
- Big Data and the Sustainable Development Goals
- Mobile Phone Data**
- Satellite Imagery and Geo-Spatial Data
- Scanner Data
- Social Media Data
- Training, Skills and Capacity-building
- Committee on Global Platform for Data, Services and Applications

Mobile Phone Data

Mobile Phone Data has surfaced in recent years as one of the Big Data sources with a lot of promise. It is expected that Mobile Phone data could fill data gaps especially for developing countries given their high penetration rates. In its 2014 'Measuring the Information Society Report', ITU shows that the average mobile subscription rate is 96.4 per 100 inhabitants world-wide, with some lower averages in Asia (89.2) and Africa (69.3). Nevertheless, these numbers show how pervasive mobile phone use is. ITU elaborates that rural areas are still lacking behind urban areas, and this should be considered in studies using Mobile Phone data, but it is clear that the coverage of these data is global. Almost every person in the world lives within reach of a mobile-cellular signal.



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Handbook on the use of mobile phone data for official statistics – draft version is available at:

<https://unstats.un.org/bigdata/taskteams/mobilephone/Handbook%20on%20Mobile%20Phone%20Data%20for%20Official%20Statistics%20-%20Draft%20Nov%202017.pdf>

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UN GWG – TT on the Use of Mobile Phone Data: Project on Human mobility



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UNSD project on measuring human mobility with using mobile phone data

<https://unstats.un.org/bigdata/events/2019/tbilisi/default.asp>

International Meeting on Measuring Human Mobility

Hosted by the National Statistics Office of Georgia (GeoStat)

Tbilisi, Georgia 27 – 29 March 2019

Overview Agenda

Overview

The international community agreed to 17 Sustainable Development Goals (SDGs) with 169 targets to be achieved by 2030 - a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. To monitor progress, a global set of SDG indicators has been developed which all countries are required to regularly report on. For example, SDG indicators should help to monitor progress on target 8.9 (to promote sustainable tourism which creates jobs, promotes local culture and products) or target 10.7 (to facilitate orderly, safe, and responsible migration and mobility of people). Traditional data collection methods, such as surveys, may not be sufficient to address the increased demand in timely, frequent and granular data.

For this reason, the UN Statistical Commission created a UN Global Working Group (GWG) on Big Data for official statistics to develop and test the use of new data sources and new technologies. The aim of the GWG is to lower the barriers of entry, particularly for developing countries, in the use of big data. A range of task teams were established under the GWG to explore the use of satellite data, mobile phone data, scanner data, and social media data.

Mobile phone data could help determine where tourists and migrants come from, how long they stay and where they go. The granularity of information which potentially can be obtained through the use of mobile phone data is much higher than what can be obtained through traditional surveys. The time lag from data collection to analysis could also be significantly reduced. The project on measuring human mobility (as part of the deliverables of the GWG task team on mobile phone data) aims to estimate population mobility patterns broken down by migrants, seasonal workers and tourists.

The international meeting is built on three parts, namely (1) measuring human mobility using mobile phone data, (2) compiling migration and tourism statistics using traditional data sources, and (3) project implementation using the UN Global Platform.

Documents

- ▲ Agenda
- ▲ Concept Note
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Within the next 18 months, the Task Team on the use of mobile phone data would like to achieve the following:

- **Develop handbook, training materials, e-learning course and update guidelines on using mobile phone data for official statistics**
- **Document and further develop methodologies and algorithms on using mobile phone data for statistical applications** (Tourism statistics, Migration statistics, Population density statistics)
- **Develop methodologies on using mobile phone data for quality checks and getting complementary information on SDG indicators**
- **Organize project meeting on the use of mobile phone data to measure human mobility, Tbilisi, Georgia, March 2018**
- **Organize regional workshop in Indonesia, June 2019**




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Eurostat projects on using mobile phone data for tourism statistics

- [Using mobile positioning data for official statistics: daydream nation or promised land?](#)
- [Tourism statistics: Early adopters of big data](#)



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Big Data Project Inventory

Home > Inventory f t g+ b

The GWG Big Data Inventory is a catalog of Big Data projects that are relevant for official statistics, SDG indicators and other statistics needed for decision-making on public policies, as well as for management and monitoring of public sector programs/projects. This inventory is a joint product of the World Bank and the United Nations Statistics Division (UNSD) put together on behalf of the UN Global Working Group (GWG) on Big Data for Official Statistics. The tasks related to the content of the inventory are led by the World Bank and UNSD, and the technical side is serviced by the UNSD technical team.

Search

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If you are working on a project that you would like to be considered for inclusion in this Inventory, even if the project is in an initial phase, please fill out [this application form](#).

Feasibility study on geo-localization: using geographical data from web services for geocoding static objects

Country/Area: Belgium
Institute / Dept: Belgium - Statistics Belgium
Data sources: Satellite imagery or aerial imagery data


Project description:
 Study the feasibility of using geographical data from web services, either open (e.g. Nominatim, OpenStreetMaps) or proprietary (e.g. Google maps) for the geocoding of static objects not covered by other sources (such as Registry Office or Population Register). The objective is improved geographical localization of statistical units (for linking) and maximally-detailed geographical breakdowns in a wide range of statistical domains. [Read More](#)

Feasibility study on the use of mobile telephone data for tourism & transportation statistics

Country/Area: Belgium
Institute / Dept: Belgium - Statistics Belgium
Data sources: Mobile phone data


Project description:

Feedback



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Strong “outside” participation



- Positium,
- Telenor,
- IBM
- Google,
- Data Pop,
- World Pop,
- Flowminder,
- Orange,
- UNU-EHS,
- World Economic Forum,
- NASA,
- Harvard

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Thank you!
Terima kasih!



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