Introduction

This introduction summarizes information about the Global Working Group (GWG) on Big Data for Official Statistics, the Task Team on AIS data and about AIS data. For more information about the GWG and the Task Team, we refer to the respective Terms of Reference. More detailed information about AIS data will be provided in the following sections of this handbook.

- About the Global Working Group on Big Data for Official Statistics
- About AIS Task Team
- About AIS data

About the Global Working Group on Big Data for Official Statistics

The Global Working Group (GWG) on Big Data for Official Statistics was created in 2014, as an outcome of the 45th meeting of the UN Statistical Commission. In accordance with its terms of reference (see also E/CN.3/2015/4), the UN GWG provides strategic vision, direction and coordination of a global programme on Big Data for official statistics, including for indicators of the 2030 agenda for sustainable development. It also promotes the practical use of Big Data sources, while promoting capability building, training and sharing of experiences. Finally, UN GWG fosters communication and advocacy of use of Big Data for policy applications and offers advice in building public trust in the use of Big Data from the private sector. To achieve the goals various task teams are created:

- Access and Partnerships
- Big Data and the SDGs
- Mobile Phone Data
- Satellite Imagery and Geo-Spatial Data
- Scanner Data
- Social Media Data
- Training, Skills and Capacity-building
- Global Platform for Data, Services and Applications

Each task team has following deliverables:

- Guidelines on data production and access
- Guidelines on Methodology
- Guidelines on Quality
- Training materials
- Feedback on accessibility

About AIS Task Team

The AIS Task Team was originally established during the United Nations Global Platform for Official Statistics workshop at Statistics Denmark with the main objective of using AIS data for the creation of official statistics. After the conclusion of the 5th Big Data Conference in Rwanda in which Data Science Campus of UK ONS presented their work on faster indicators of economy activity – partly using AIS data sets – the AIS task team was reinvigorated to expand its original objectives and to include members from developing countries in May 2019. The AIS Task Team will develop algorithms and methodologies; and conduct trainings – taking into account existing initiatives in this areas – for using AIS data to create official statistics and/or develop experimental data fit-for-purpose, making use AIS data in various areas such as freight, traffic within harbours, economic trade indicators, CO2 emission, fishery. The various areas are also expressed in the members of the task team. The Task Team will support the promotion of the United Nations Global Working Group on Big Data and the United Nations Global Platform (UNGP) for Official Statistics by participating in programmes and events; for example the UN World Data Forum, the UN Big Data Conference and the ISI World Statistics Congress. The AIS Task Team will use the Global Platform for the global collaboration on developing, and publishing of the algorithms, methods and training.

About AIS data

The automatic identification system (AIS) is a tracking system for ships, originally developed for collision avoidance. In the recent years, it is also used for analyses from various fields. The data is automatically transmitted every few seconds over very high frequency (VHF) radios from approximately 100,000 vessels worldwide.

Figure 1: From the ship to the user
As shown in Figure 1, the signals of the vessels are sent either to a land-based AIS receiver or to a satellite receiver. These signals are edited by a maritime data aggregator. Thus, the AIS data that an analyst will use is already edited and somewhat cleaned. Since moving vessels send VHF signals in a high frequency, AIS uses time slots of 26.6 milliseconds to enable receiving simultaneously sent VHF signals from various vessels. This system is only used by land-based receivers. Thus, the position records are more frequent and valuable than the records received by a satellite receiver.

AIS data is made available by several private providers. However, for the purpose of official statistics a standardized data base is crucial. Thus, the AIS data provided by the UN Global Platform is used for the means of the Task Team. The overview of the AIS data provides more information about the characteristics of the data.