IPS 776 Web Data for Official Statistics – Methodology, Quality, Production and Community

Alexander Kowarik, Statistics Austria

8 October 2025

The Hague





Web Intelligence Network (WIN)

14 countries, 17 organizations, ~100 members

Contribute to the development of the Web Intelligence Hub

Reach out to all ESS countries

Use web data, use the WIH







Topics WIN was looking at

Methodology Quality Architecture Most mature use-cases

Online job advertisements
OJA

Enterprise characteristics
OBEC



contributors &





Results for OJA and OBEC

- <u>Technical guidelines on the implementation of the software</u>
 <u>produced</u> deliverable shows all necessary information to move
 OBEC and OJA usecases into the production using the WIH
 environment it is a guide for accessing the system, reading the
 data, with examples of possible use
- Suggested set of new metadata for the use by Eurostat with suggested set of tables to publish at Eurostat's website - contains templates of tables and metadata, with data calculated by the use of the WIH platform and DataLab







Reports available from experimental work

- Real estate data Experimental statistics for characteristics of the real estate market
- Report on methods and feasibility to track <u>construction activities</u> based on real estate web portals
- Reports on methodology and results for online prices



- Report on methods for analysing <u>hotel</u> <u>price data</u> and computing various indices of interest
- Report on methods to be used for <u>imputation of price data</u> in price statistics (travel-related expenditures)
- Reports on methodology and results to use <u>online data for business register</u> enhancement
- <u>Faster Economic Indicators</u> using new data sources - Reports on assessment of challenges and opportunities.





Cross-cutting work – deliverables

Quality

- Quality Guidelines for acquiring and using web scraped data framework for identifying and selecting data sources for the web scraping process and guidelines on evaluating existing data set in terms of stability
- Quality Assessment for the statistical use of webscraped data assessing the quality of data classification

Methodology

- Methodology report on using web scraped data sampling, web scraping process and causes of bias, methods specific for web scraped data
- Minimal guidelines and recommendations for implementation guidelines for integrating webscraped data into official statistics

Architecture

 BREAL - Big Data REference Architecture and Layers for web scraped data - "Extension and Enhancement (E&E)" of the BREAL framework





Presentations of today

 Magdalena Six - Measuring the quality of official statistics based on web data

Olav ten Bosch - Official statistics using web data: new use cases

Klaudia Peszat - Real-estate statistics from web data





Presentations





Discussion

- How can we best address the methodological challenges arising from poor data quality in new data sources?
- To what extent is a purely web-based approach sufficient, and when does integration with established sources such as surveys or administrative data become indispensable?
- Should future projects prioritize solving concrete problems (e.g., developing fast labour market indicators) rather than focusing on specific data sources?
- How can multi-source data approaches such as combining MNO data with registers or linking web data with tourism statistics enhance accuracy and comprehensiveness?
- What are the opportunities and risks of applying Large Language Models (LLMs) for URL discovery, particularly in identifying and categorizing relevant web data sources?





Lessons learned & conclusions

Immense knowledge-exchange, learning and added value from working together

New data sources vs. official statistics quality standards

Transparency & control of the production process

Role of domain experts

Top-down vs. bottom-up approach

National agenda and country specificities

Governance set-up

Legal constraints

Added value for the NSIs

WIH - highly innovative & extremely complex endeavor





uRos2025 on-site event24-26 November 2025

https://www.urosconf.org/

