

ModernStats World Workshop 2022



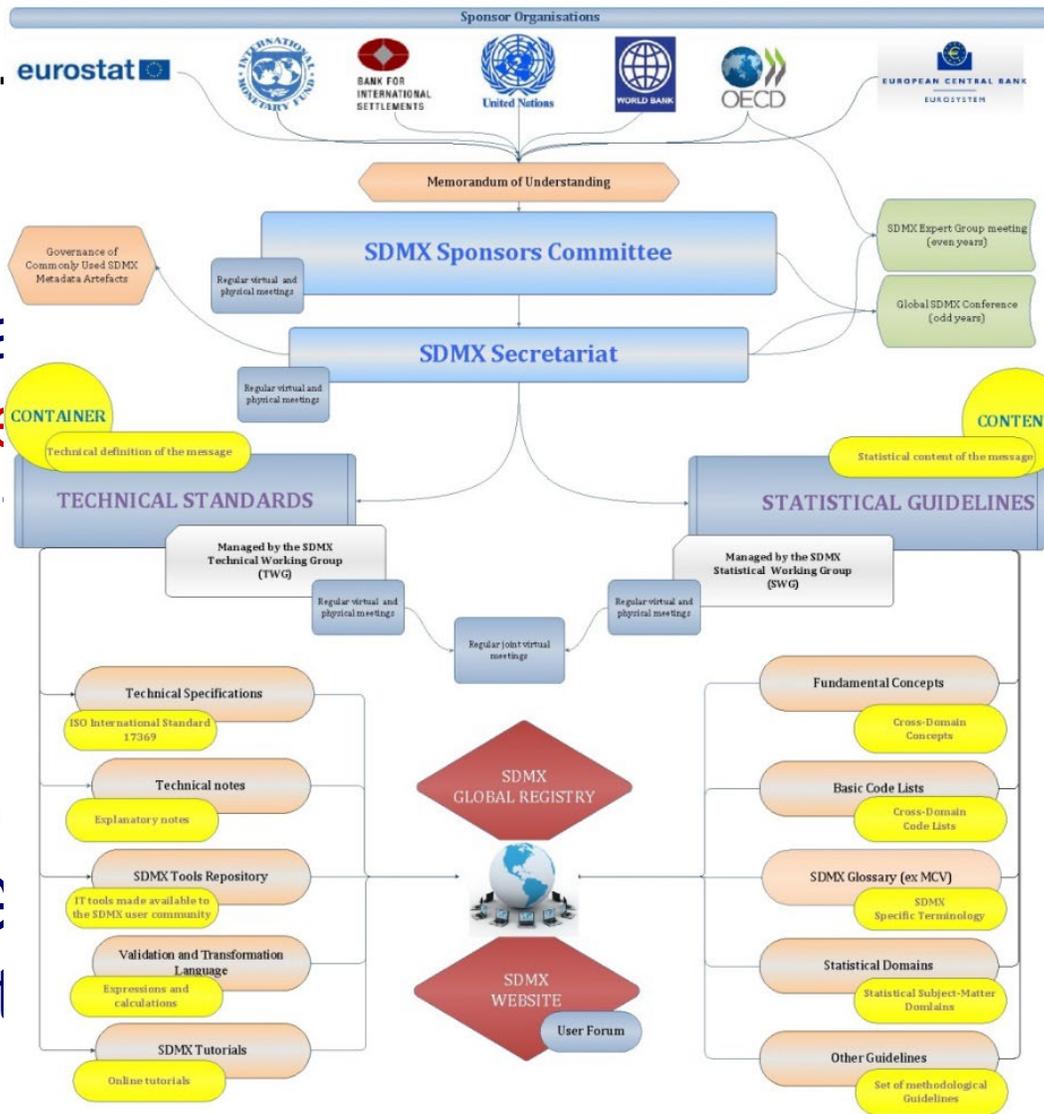
The Added Value of SDMX 3.0

June 28, 2022

Edgardo Greising
Head of Knowledge Management Solutions Unit / ILO
Chair SDMX-TWG



Stat



nge

SDMX is a
and modern
processes

standardising
mechanisms and
metadata.

Launched
Committee
Working Group
technical standards

a Sponsors
and Statistical
dating of the
3



Statistical Data and Metadata eXchange

SDMX is an ISO standard (ISO 17369) designed to describe statistical data and metadata, normalise their exchange, and improve their efficient sharing across statistical and similar organisations. It provides an integrated approach to facilitating statistical data and metadata exchange, enabling interoperable implementations within and between systems concerned with the exchange, reporting and dissemination of statistical data and their related meta-information.



Statistical Data and Metadata eXchange

Technical Specifications

The SDMX
Information Model

Guidelines to Harmonise Content

Content-oriented Guidelines
(COG)

Tools

IT Architectures for data
exchange
SDMX compliant tools

SDMX is not just a data transmission format...



Statistical Data and Metadata eXchange

SDMX Information Model

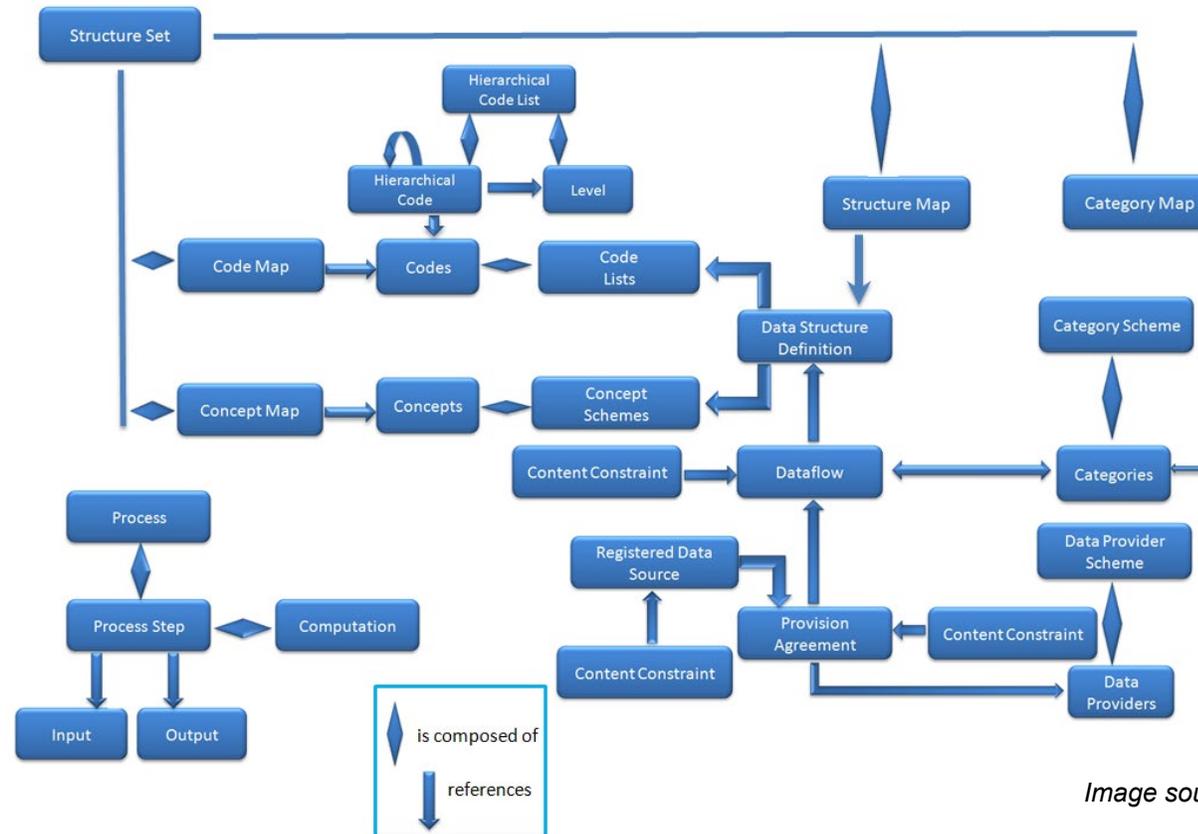


Image source: Metadata Technology

«DOING» SDMX vs. «USING» SDMX

MITH: ***SDMX is too complex!***

SDMX looks complex and intimidating if you try to understand all its detailed documentation, but...

Have you ever read the IEEE 802.11 documentation?
and so...

Do you have difficulties to use WiFi?

You don't need to develop an SDMX interface to use SDMX as you are not supposed to build your own wireless Ethernet adapter to use WiFi

The evolution

- “Roadmap 2020” approved at the beginning of 2016
 - Ideas for improving the standard in the TWG back in 2014
- Strategic objectives:
 1. Strengthening the implementation of SDMX;
 2. Making data usage easier via SDMX (especially for policy use);
 3. Using SDMX to modernise statistical processes, as well as continuously improving the standards and IT infrastructure;
 4. Improving communication in general, including a better interaction between international partners
- The implementation of the Roadmap required new features not available in SDMX 2.1

Why was SDMX 3.0 needed?

- Reference metadata exchange was too complicated
- Geospatial data needed a formal expression
- Natural way for modelling microdata was requested
- Codelist extension meant creating a separate codelist
- Managing version dependencies was inflexible
- More flexibility and new features required for mapping
- Implementing multiple hierarchies was not intuitive
- Improvements to the SDMX APIs, e.g. allowing queries on non-series aspects such as “give me all breaks in series observations”

New features in SDMX 3.0

- *Improve the exchange of reference metadata*  
- *Support for geospatial information* 
- *New features to support microdata*  
 - *Support microdata exchange*
 - *Multiple measures*
 - *Multiple values for attributes*
 - *Simplify DSD Dimensions*
- *Improved codelists' handling*  
 - *Codelist extension / composition*
 - *Discriminated union of codelists*
- *Semantic versioning* 

New features in SDMX 3.0

- *Enhanced artefacts* 
 - *Enhance the constraints artefacts*
 - *Reorganising constraints*
 - *Improve mapping by enhancing the Structure Set artefact*
 - *Referencing of hierarchical codelists*
 - *Schema attribute attachment at series & group level*
- *Enhanced SDMX API* 
 - *Support reference metadata in the Restful API*
 - *Deprecation of the SOAP API*
 - *Group all structural metadata queries under a structure resource*
 - *Support resource management - structures and data*
 - *Improve clarity and documentation of the API*
 - *Improving API data queries*
- *Deprecation of obsolete formats*

...and here it is!

2. Making data usage easier via SDMX

- *Semantic versioning*
- *New features to support microdata*
- *Support for geospatial information*
- *Enhanced SDMX API*

3. Using SDMX to modernise statistical processes, as well as continuously improving the standards and IT infrastructure

- *Improve the exchange of reference metadata*
- *Enhanced artefacts: structure sets, hierarchies, constraints*
- *Improved codelists' handling*
- *Deprecation of obsolete formats*
- *Enhanced SDMX API*

Now it is possible with SDMX 3.0

- *Reuse reference metadata sets attached to structures or lower level components*
- *Have DSD attributes with enhanced “presentation capabilities”*
- *Use SDMX datasets as geospatial input data for GIS applications*
- *Store, exchange and process microdata in SDMX*
- *Make use of global codelists without having to worry about its maintenance*
- *Choose dynamically the variant of a classification depending on the context defined by a Dataflow or a Provision Agreement*



Now it is possible with SDMX 3.0

- *Make minor artefacts' updates not affecting dependencies*
- *Use simpler structure sets to store and share concepts' mappings*
- *Implement multiple hierarchies in a much simpler and intuitive way than HCL*
- *Use Annotations to drive processes and data visualization*
- *Make queries on non-series aspects such as “give me all break-in-series observations”, or complex queries involving logical operators*
- *Retrieve data from multiple dataflows sharing a single DSD with just one query*



Questions?

Thank you for your attention



greising@ilo.org



[@egreising](https://twitter.com/egreising)