

## SDMX ACTION PLAN FOR IMPLEMENTING THE SDMX ROADMAP 2020 (Phase 1: 2016-2018)

ID	Title	Description	Actions	Deadline	Deliverables
<b>1. Strengthening the implementation of SDMX</b>					
1.1	<b>Implement SDMX in more statistical domains and promote its use</b>	Promote infrastructural packages to facilitate technology adoption, with a focus on co-ordination and guidance. Ensure minimum duplication from overlapping programs and a pooling of efforts from the outset (e.g. Short term economic statistics, SDDS+, OECD STES and Eurostat STS). Provide cross mappings and other models of co-ordinated actions through guidelines, bilateral and multilateral agreements.	<p>1.1.1: Recommendations on handling data overlaps, and various DSD overlaps.</p> <p>1.1.2: Guidelines on artefact uses to document overlaps and facilitate transformations.</p> <p>1.1.3: Monitor implementation progress and provide co-ordination to achieve maximum re-usability of developments triggered by individual implementation initiatives.</p>	2017 2017 2018	Guidelines on implementing SDMX in statistical domains. Completed v3.0 of OECD Short-Term Economic Statistics (STES) multi-domain DSD.
1.2	<b>Develop additional Data Structure Definitions and make them available for global uses</b>	Classify statistical domains whether they are eligible to be considered for a global DSD effort in the short or medium term. Set out the preconditions for a global DSD initiative, monitor and report back on the progress of initiatives to the Sponsors on an annual basis (bring to conclusion on-going global DSD initiatives, and launch new ones).	<p>1.2.1: Eligibility criteria for domains, containing an assessment by domain, identification of potential lead agencies, etc.</p> <p>1.2.2: Review/catalogue on-going initiatives (and whenever needed help to unblock stuck initiatives).</p> <p>1.2.3: Assist the running projects to develop new global DSD initiatives for Labour and Prices statistics.</p>	2017 2017 2018	Catalogue of on-going initiatives. Completed DSDs for following domains: OECD is leading the SDMX project for Labour Statistics. Eurostat is leading the SDMX for Price Statistics project.
1.3	<b>Encourage more data sharing agreements using SDMX standards and IT infrastructure</b>	The Inter-Agency Group for Macro-Economic and Financial Statistics has established a Task Force on International Data Sharing to progress the implementation of data sharing using SDMX standards and the required IT infrastructure among its members.	<p>1.3.1: Promote IAG data sharing implementations in several domains.</p> <p>1.3.2: Implement data sharing agreements with organizations that are not members of the IAG.</p> <p>1.3.3: Promote SDMX-based data sharing in the context of SDGs.</p> <p>1.3.4: Implement a pilot for GDP data exchange leveraging the pull-mode.</p>	2018 2017 2017 2017	Pilot and establishment of data sharing agreements and SDMX data flows between the agencies. Gradual replacement of the packaging of data (Push) with data queries (Pull) in the data flows. Implementation of the forthcoming SDG Global DSD.
1.4	<b>Improve data sharing processes with a better coverage of reference metadata</b>	Improving efficiency of reference metadata exchange. Global Metadata Structure Definitions (MSDs) and enhanced tools make it possible to increase the efficiency of reference metadata exchange between statistical agencies and for dissemination. The quality and timeliness of reference metadata can be improved and aligned, thereby enabling statistical data to be described more thoroughly in a comparable way, and shared using automated systems.	<p>1.4.1: Develop Metadata Structure Definitions for statistical domains.</p> <p>1.4.2: Develop tools facilitating the conversion of reference metadata into SDMX format.</p> <p>1.4.3: Establish and implement agreements for SDMX-based sharing of reference metadata.</p>	2017 Continuous 2017	Global MSD and metadata Concept Scheme. Tools that process and disseminate SDMX reference metadata. Mappings between agencies' metadata schemas and the Global MSD. Guidelines on the implementation of SDMX reference metadata.

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<b>2. Making data usage easier via SDMX (especially for policy use)</b>					
2.1	<b>Encourage the use of SDMX for data dissemination and for more interactive data visualisation</b>	In accordance with Open Data principles, data should be accessible in both human and machine readable formats. SDMX offers a standardized format and several Application Programming Interfaces for that can be used for data dissemination and allow for more active data visualization by through integration with specialized tools. Cloud-based converter services for data are key for lowering the entry barrier to SDMX. SDMX as a technical format should ultimately become transparent to the users.	2.1.1: Support mapping of macro-economic statistics into SDMX format through the development and maintenance of SDMX DSDs for dissemination purposes. 2.1.2: Foster the development and provision of cloud-based SDMX data conversion services. 2.1.3: Support e-GDDS participants to establish and improve data dissemination. 2.1.4: Help SDDS subscribers migrating to an SDDS Plus like NSDP.	Ongoing  Completed 2016 On-going  2017, with a transition period of 3-5 years for all SDDS countries	EcoFin DSD v.2.0 Cloud-based SDMX-data conversion services National Summary Data Pages supporting SDMX. National Summary Data Pages supporting SDMX.
2.2	<b>Encourage more compatibility of SDMX with other standards used for micro-data</b>	SDMX was originally focused on the exchange of aggregated time-series data between organisations. With versions 2.0 and 2.1, SDMX has gradually widened its scope to become a full metadata standard, also usable for other types of data (namely microdata). With the increasing importance of microdata in statistics, one of the foreseen strategic goals of the SDMX 2020 roadmap is to assure more compatibility of SDMX with other standards that are used for micro-data, such as XBRL, widely used for individual business reports, and DDI, which is a reference metadata standard used for describing questionnaires and other types of statistical microdata.	2.2.1: Mapping SDMX-XBRL. 2.2.2: Guidelines to the use of SDMX for micro-data. 2.2.3: Report on the interaction of SDMX with other standards, providing recommendations on the use of information standards for different types of data and particular use cases.	2017 2018 2018	Mapping between SDMX and XBRL. Assessment of transmission formats for micro-data. Compatibility assessment. Report on the interaction of SDMX with other standards. Recommendations on the use of information standards for different types of data and particular use cases.
2.3	<b>Develop closer collaboration with Linked Open Data communities</b>	The Open Data community is promoting the use of advanced semantic standards with the aim of further strengthening the discoverability of statistical data across open data dissemination portals. The so-called "semantic web" has already found its own mapping to SDMX by adopting its information model as the basis of the RDF Data Cube Vocabulary. The issue of a complete mapping between SDMX and those standards, together with a definition of the boundaries of each standard and the setup of technical guidelines for converting the objects of one standard into the objects of the other, if needed, is one of the priorities for the 2020 Roadmap. SDMX-based dissemination systems will make their data and metadata reusable under systems based on RDF.	2.3.1: Analysis of the interaction of SDMX with RDF-based Linked Open Data. Assessment and further enhancement of the W3C DCAT family of standards for open data portals. 2.3.2: Guidelines on the provision of metadata and open data coming from SDMX-based dissemination databases. Review of examples, implementation pilots.	2017  2018	Assessment and proposals for further enhancement of StatDCAT-AP. Pilot for the provision of open data and metadata. Guidelines.
2.4	<b>Provide easier access to SDMX for national organisations through more SDMX-compatible exchange formats</b>	When implementing SDMX, the importance of content standardisation and the advantage of a structured way of defining the data, according to the information model, should be highlighted. The use of one or another format should be a technical issue, depending on factors like the size of the data, the automation of the process and the specific use case. The goal is providing easier access to SDMX for national organisations through more formats (e.g., CSV, JSON) based on the SDMX Information Model, and better IT tools. A TWG task-force has been set up on these issues.	2.4.1: Guidelines on the use of SDMX for countries with little IT infrastructure (SDMX-light). 2.4.2 Guidelines for the use of CSV in the context of SDMX. Field-guide on SDMX-CSV for public review.	2017  2017	Public review draft and final publication of the SDMX-CSV standard. Proof-of-concept. Completed set of implementation guidelines.

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<b>3. Using SDMX to modernise statistical processes, as well as continuously improving the standards and IT infrastructure</b>					
3.1	<b>Develop further the SDMX IT infrastructure and software tools, providing services that can be shared</b>	SDMX software tools are made available free of charge - and most of them are also covered by an open source license. Quite often, however, these pieces of software are not meant to be used "As-A-Service" and there is no guarantee regarding their interoperability with other pieces of SDMX software. This is not ideal in terms of Enterprise Architecture, where a cost efficient Service Oriented Architecture is typically preferred. The situation has been improved with the release of SdmxSource and of products such as Eurostat SDMX-RI (Reference Infrastructure) and its Components-based architecture, but further improvements are needed.	3.1.1: Strategical coordination in the maintenance and further development of high-quality IT components (e.g. Fusion Registry, SDMX-RI, new components). IT strategy and roadmap. 3.1.2: Technology Compatibility Kit (TCK) for the key components of SDMX infrastructures. 3.1.3: Improve the visibility of recommended SDMX libraries. Creation of a unique entry point for developers interested in retrieving technical documentation or software.	Continuous First deliverables for all actions: 2017	SDMX IT strategy and roadmap. Technology Compatibility Kit for SDMX key components. Portal dedicated to developers, featuring high quality documentation and links to the various reference projects.
3.2	<b>Improve technical standards and statistical guidelines for a better coverage of user needs</b>	Enhancing SDMX capabilities through an evolution of the SDMX standard and implementation guidelines, in response to user needs. The SDMX Technical Working Group (TWG) is in charge of maintaining a list of issues for enhancement of the SDMX technical standard, and for fixing bugs. The SDMX Statistical Working Group (SWG) is in charge of reviewing and improving content-oriented guidelines for implementing SDMX. Both SWG and TWG report to the SDMX Secretariat, which reports to the SDMX sponsors.	3.2.1: Amendments to the SDMX technical specifications for enhancing the use of the standard; packages for the draft and final publications. 3.2.2: Documentation packages, examples, tutorials for a sufficient level of clarity about the SDMX specifications. 3.2.3: Enhanced set of content-oriented and implementation guidelines.	2017  Continuous  Continuous	A "green paper" on business cases to improve the SDMX standard. Work packages and meetings to discuss and prioritise the new standard version features. More documentation for new and existing features where documentation is missing. New guidelines for when feature use cases are unclear.
3.3	<b>Integrate data validation within the SDMX standard, based on the Validation and Transformation Language (VTL)</b>	The work on the use of SDMX for data validation was launched at the end of 2012 by the SDMX Secretariat. A task force, composed of members of SDMX, DDI and GSIM communities and under the responsibility of the Technical Working Group, was formed in 2013 with the task of implementing a module of the SDMX Information Model on validation and transformation. In 2015, the task-force published the version 1.0 of the Validation and Transformation Language (VTL) allowing a formal definition of algorithms to validate statistical data and calculate derived data. The work is on-going for deriving a new enhanced version of VTL and for achieving a full implementation within SDMX.	3.3.1: Technical specification of the VTL 1.1 language. 3.3.2: Documentation and tutorials on the new standard. 3.3.3: SDMX implementation of VTL (new artefacts, syntax, guidelines). 3.3.4: Report and tests, technical consultancy for the implementation of VTL, reusable building blocks for content validation.	2017 2017 2017  2018	Technical specification and proof of concept of the SDMX-VTL implementation. Guideline for implementors. Shareable tools to allow agencies to easily integrate SDMX data validation into their processes.

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<b>4. Improving communication in general, including a better interaction between international partners</b>					
4.1	<b>Improve communication about SDMX with senior managers, policy-makers, users and bodies that implement SDMX</b>	SDMX gets technical very soon, and is still perceived as IT-oriented, so that senior management, statisticians and economists risk losing interest. Communication with managers, policy-makers and users should focus on how SDMX helps faster transfer of data with lesser cost by using a common open standard and building common tools that can be used by many.	4.1.1 SDMX Business case for senior managers. 4.1.2 SDMX Case studies showcasing improved efficiency and quality. 4.1.2 Non-Technical high level presentations, including a module for beginners. 4.1.4 Global survey of SDMX activities plus case studies.	2017	Case studies, presentations, promotional material.
4.2	<b>Review of the lessons learned from more than 10 years of Global SDMX Conferences and expert group meetings</b>	There is a need of assessing the adequateness of SDMX conferences and expert meetings, better defining the terms of references for these meetings. The SDMX Global Conference is the main event on the SDMX calendar and has been held every 2 years since 2005, bringing together management and statistical experts involved in data and metadata exchange to discuss the role and the status of the SDMX initiative and to make decisions on strategic directions for the standard going forward. The SDMX Experts Group is held every 2 years, alternating with the SDMX Global conference, and is the secondary international event on the SDMX calendar. The group was originally set up in 2004 by the OECD as the "OECD Expert Group on Statistical Data and Metadata Exchange" as a forum for IT experts from the SDMX sponsors group and OECD member countries to discuss issues related to the implementation of SDMX. The group reported to the OECD Statistical Committee (CSTAT). In 2015, the OECD Committee for Statistical Policy (CSSP) decided that the meeting is now an ad hoc meeting that can be organised as needed.	4.2.1: Propose future arrangement for SDMX Global Conference. 4.2.2: Propose future arrangement for SDMX Experts meeting.	2017	Proposal for new experts group and capacity building sessions.
4.3	<b>Explore new avenues to communicate and advertise SDMX products</b>	Currently there is very limited knowledge of SDMX outside the seven sponsors and some National Statistical Offices	4.3.1 Introduce SDMX in other initiatives like the Global Partnership for SDG's so that more agencies including private sector become aware of SDMX. 4.3.2 SDMX presence in social media, LinkedIn, Facebook, Twitter. 4.3.3 Live tweet during SDMX conferences with relevant hashtag. 4.3.4 SDMX-driven data visualization in sdmx.org bringing in data from multiple organizations.	Continuous	Establish a coordinated, inter-agency SDMX marketing team and/or project. Coordinated production of SDMX media: posters, wallpapers, etc. Marketing strategy. Create SDMX marketing and learning media. Update of SDMX.org
4.4	<b>Better communication and interaction with other modernisation initiatives</b>	Communication on SDMX activities at United Nations' level. Coordination with the activities held within the High-Level Group for Modernisation (HLG) established at UNECE level, whose purpose is to oversee development of standards and sharing of information, tools and method supporting the modernisation of statistical organisations. In particular, HLG committees are dealing with the improvement, promotion and integration of standards for statistical production through a network of experts from national institutes and international organisations.	4.4.1: Step up the communication of SDMX activities and achievements to the United Nations Statistical Commission. 4.4.2: Report on modernisation initiatives and on the interaction between the different standards (see action 2.2.3). 4.4.3: Review and evaluation of SDMX standard and implementation. Maturity Model and roadmap for SDMX adoption.	2018	Coordinated meetings between the SDMX working groups and the HLG committees on standards. Report on the interaction of standards. SDMX Maturity Model. Incorporate links to HLG standards in SDMX documentation (and vice-versa), e.g. SDMX and CSPA.

4.5	<b>Improve SDMX training</b>	<p>As SDMX is implemented in more statistical domains and moves into production, there may be a lack of knowledge among key stakeholders as well as a shortfall in resources for training actions.</p> <p>The SDMX sponsors provide different kinds of training and on-line tutorials, from classroom-style trainings (at different levels) to webinars, self-learning tutorials and special sessions during international conferences.</p> <p>Such an effort sometimes places a heavy burden on small teams and requires creative thinking about training offers. There is a need for International Organisations to work more closely together to provide a more global and shared response, and communicate with one voice.</p>	<p>4.5.1: Coordination and better visibility of training initiatives, workshops and capacity-building events.</p> <p>4.5.2: Release of user-friendly tutorials, videos and other training material.</p> <p>4.5.3 E-learning courses, with possible SDMX certification.</p>	2017	<p>Establish a coordinated, inter-agency SDMX training team and/or projects.</p> <p>New videos and learning material.</p>
4.6	<b>Strong efforts to build SDMX capacity, in countries where a better awareness is needed</b>	<p>Capacity building takes different forms: human resource development, organisational development, institutional and legal frameworks and appropriate funding. While great interest in SDMX is observed across all regions of the world, many countries lack the capacity to launch SDMX-based data dissemination or exchange. The awareness of SDMX, while increasing, is still inadequate at national agencies, particularly those outside of National Statistical Offices and Central Banks.</p>	<p>4.6.1: Access to a register of SDMX experts facilitating the implementation, as well as training and other capacity building activities.</p> <p>4.6.2: Compile and publish a list of SDMX capacity building initiatives among the SDMX Sponsor Agencies and other international organizations. Documentation to be translated into all official languages whenever possible.</p> <p>4.6.3: Use global data initiatives, in areas such as SDGs, to raise awareness and encourage implementation of data exchange standards on a global level.</p> <p>4.6.4: Improve coordination among international agencies to (a) improve the effectiveness and efficiency of capacity building, and (b) raise awareness and facilitate implementation at government agencies beyond the national statistical offices.</p>	2017  2017  2018  2018	<p>Register of SDMX experts. Update SDMX.org as the central knowledge base.</p> <p>List of SDMX capacity-building initiatives.</p> <p>Improve interaction with HLG initiatives that also support SDGs and developing countries.</p> <p>Progress report on capacity development over 2017-2018.</p>