SDG Data Interoperability

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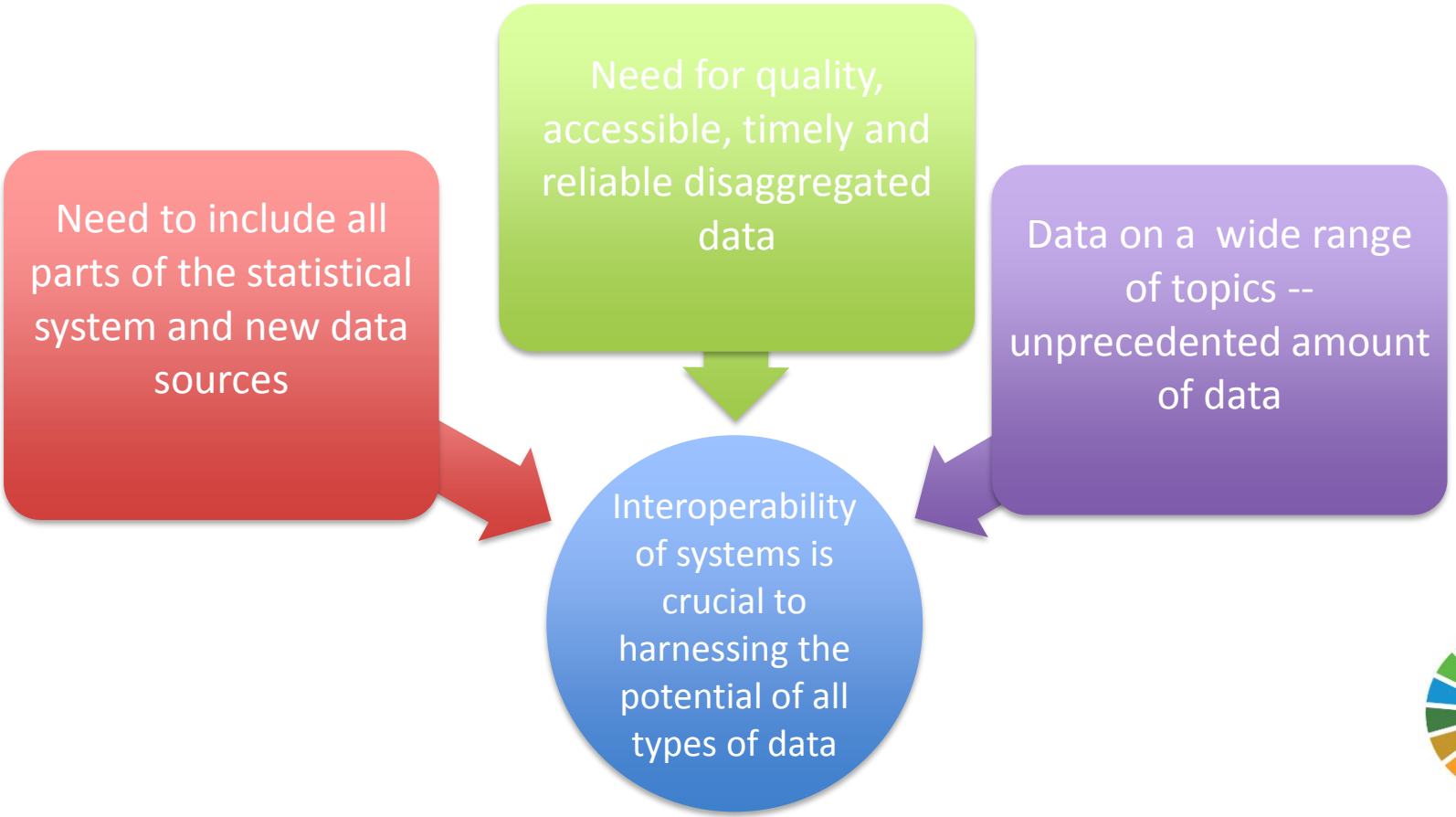
Addressing data needs for the 2030 Agenda



What we need to address

- Quality assurance
- Data validation
- Making data open and accessible to users, including all levels of decision makers
- Technical challenges (syntactic and semantic)

Technology as a key enabler

- While the challenges are immense, **digital technology** available today allows for the necessary **transformation** to leverage:
  - New sources of data and information
  - New approaches for data collection, management, processing and dissemination
  - New partnerships with civil society, the private sector and academia
  - Integration of geospatial and statistical information systems

Collaborative on data interoperability

- The **vision** of the Collaborative is a world in which contextual and holistic information on SDG targets derived from multiple sources can be easily assessed by anyone and integrated seamlessly with other information enabling improved analysis, decision-making and accountability.
- Joint initiative from the Global Partnership on Sustainable Development Data and UNSD

Objectives of the Collaborative on data interoperability

- Providing collaborative, structured yet adaptable coordination and leadership for stakeholders from across constituencies seeking to find solutions to common interoperability challenges relating to the SDGs;
- Production of replicable prototypes/solutions to specific SDG-related interoperability challenges at international, regional and/or national level;
- Production and publication of guidance and advice on best practices in the development of interoperability solutions – both for general publication and also for the consideration of the HLG-PCCB, IAEG-SDGs, its subgroups and the UN-GGIM as appropriate; and
- Testing prototypes and guidance by conducting sub-/national-level pilot projects.

Why data interoperability?

- To implement an open, service-oriented, standards-driven “system-of-systems” architecture to **link subnational, national and global datasets**
- To promote the **use (and re-use) of available data assets and services** by making them widely accessible through different data ecosystems
- To enable the development of modern platforms for **collaboration** among data producers and data users around SDG policy initiatives
- To strengthen ability of National Statistical Systems and all SDG stakeholders to **share data, knowledge, and expertise** for the 2030 Agenda

What is data interoperability?

- Ability to **access**, **process** and **integrate** multiple data assets into **coherent** information products and services across:
  - Sources
  - Domains
  - Formats
  - Units of analysis
  - Time
  - …

Key enablers of data interoperability

- Content and technology standards
- Application Programming Interfaces (APIs) and Integration Applications
- Data governance and coordination mechanisms

Types of data interoperability

- **Search interoperability**:
  Ability to search two or more data collections through a common query engine;

- **Syntactic interoperability**:
  Ability to exchange data across computer systems using standard data formats and communication protocols

- **Semantic interoperability**:
  Ability to automatically and unambiguously interpret the meaning of information exchanged

- **Institutional interoperability**:
  Ability to address governance issues of data sharing (e.g., data ownership, information silos, skills and usability)

SDG data interoperability in the context of the Cape Town Global Action Plan

- **<u>Strategic Area 2:</u> Innovation and modernization of national statistical systems**

  <u>Objective 2.1:</u> Modernize governance and institutional frameworks to allow national statistical systems to meet the demands and opportunities of constantly evolving data ecosystems

  Key Actions:

  – Strengthen their access to data, including enhanced data sharing across the national statistical system
  – Improve transparency of, and public access to, official statistics
  – Explore ways of revising the Fundamental Principles of Official Statistics to include relevant and appropriate aspects of open data initiatives
  – Clarify and support the role of the national statistical systems in open data initiatives, consistent with the Fundamental Principles of Official Statistics.
  – Encourage national statistical offices to embrace the open data initiative and ensure stakeholders of the national statistical system as part of the process.

SDG data interoperability in the context of the Cape Town Global Action Plan

- **<u>Strategic Area 2:</u> Innovation and modernization of national statistical systems**

  <u>Objective 2.2:</u> Modernize statistical standards, particularly those aimed to facilitate data integration and automation of data exchange across different stages of the statistical production process

  Key Actions:

  – Define and implement standardized structures for the exchange and integration of data and metadata on the social, economic and environmental pillars of sustainable development and at all levels (global, regional, national and sub-national), following the SDMX and related standards.

  – Promote interoperability of these systems to facilitate such integration.

SDG data interoperability in the context of the Cape Town Global Action Plan

- **<u>Strategic Area 2:</u> Innovation and modernization of national statistical systems**

  <u>Objective 2.3:</u> Facilitate the application of new technologies and new data sources into mainstream statistical activities

  Key Actions:

  – Identify specifications for interoperable, open source technologies to incorporate the flexibility in information systems needed to allow the strategic use of new and emerging technologies for official data collection, processing, dissemination and analysis.

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  – Promote the development of integrated database systems to support the efficient and effective review and follow up of the implementation process of the 2030 Agenda for Sustainable Development, building, where possible, on existing MDG database platforms.

Specific work areas to improve SDG data interoperability

1. Integrate geospatial and statistical information;
2. Adopt of SDMX and other open standards through accessible and user-friendly templates, adaptors and interfaces;
3. Develop and promote open APIs for accessing, integrating and analysing data for sustainable development from multiple sources;
4. Coordinate classification systems to enhance the integration of data from different sources;
5. Improve of interoperability of microdata from surveys and administrative records

Next steps at UNSD

- Launch of UNSD's SDG Open Data Website
- Release of Global SDG Indicators Open API