

St Maarten

St Maarten Digital Gov Transformation

Data Interoperability Policy Inputs

August 2020



This document was prepared by Jerry Henzel (Consultant) in collaboration with Joanna Watkins, (Task Team Leader, Senior Public Sector Specialist) and Raman Krishnan, (Co-Task Team Leader, Senior Digital Development Specialist) as part of the Sint Maarten Digital Government Transformation Project (P171978, P172611). Funding was provided through the Sint Maarten Recovery, Reconstruction and Resilience Trust Fund, administered by the World Bank. The document was drafted in close coordination with Sint Maarten's Ministry of General Affairs, ICT Department.

Table of Contents

Preface	3
General Provisions	4
Article 1: Purpose of the Policy	4
Article 2: Legal Basis of the Policy	4
Article 3: Definition of Terms.....	4
Main Provisions.....	5
Article 4: Scope, Subject, and Purpose	5
Article 5: Management, Operations and Enforcement of the Policy	5
Article 6: Policy Enforcement.....	6
Data Interoperability Policy Provisions	6
Article 7: Data Interoperability	6
Article 8: Common Data Model.....	6
Article 9: Data Interoperability Exchange Point (IEP)	7
Article 10: New Development.....	7
Article 11: Existing Systems	7
Article 12: Single Source of Truth	8
Article 13: Third Parties	8
Article 14: Security	8
Article 15: Appeals.....	8
Article 16: Exemptions.....	8
Article 17: Effective Date	8

Preface

1. This document forms part of the bank-executed portion of the Sint Maarten Digital Government Transformation Project (P171978, P172611) to support the Government of Sint Maarten in creating an enabling environment for digital transformation and preparing the groundwork for investments in ICT and system upgrades. The Digital Government Transformation Project is financed through the Sint Maarten Recovery, Reconstruction and Resilience Trust Fund administered by the World Bank.

2. In the absence of an adequate policy framework to guide digital transformation in Sint Maarten, this document provides inputs to the drafting of a Data Interoperability Policy. This policy is a critical cornerstone of digital transformation, as it sets out the principles for data exchange and cross-government system interactions with the ultimate goal to provide public services which are seamless, convenient, faster, and more efficient across multiple platforms.

2. This is a deliverable under Pillar 3 on the enabling environment. The objective of this pillar is to strengthen organizational and governance structures, as well as associated standards, protocols, and policies that are needed to enable sustained digital transformation. The pillar supports the following activities:

- a. Policy, legal and regulatory reforms;
- b. Cybersecurity; and
- c. Change Management and capacity building

3. This document provides inputs to the drafting of a National Data Interoperability Policy and includes general provisions common to such policies for the Government of Sint Maarten.



General Provisions

Article 1: Purpose of the Policy

The purpose of this document is the establishment of national policy that shall govern sharing and exchange of data across all entities under the governance of the Government of Sint Maarten.

Article 2: Legal Basis of the Policy

The legal basis for this policy is based on the authority vested in the Council of Ministers of the Government of Sint Maarten.

Article 3: Definition of Terms

For the purposes of this policy, the terms used herein have the following meanings:

- a) Information and Communication Technologies (ICT) - management, support, or development of systems carried out through unified use of computer, software, and communication technologies.
- b) Common Data Model - A data model that ensures structural and semantic consistency across multiple apps and deployments or systems. A base (logical) data model used by and extended by other applications and systems in their design to ensure that there is a degree of commonality between key data elements thereby making integration and data flow easier.
- c) Critical Infrastructure - Assets that are essential for the functioning of a society and economy whose destruction or incapacity would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters.
- d) Critical ICT Infrastructure – ICT systems and assets that are foundational to critical infrastructure and its functioning.
- e) Electronic (digital) governance – carrying out public administration using informational and communication technologies.
- f) ICT Audit – Comprehensive verification of the security of systems and data.
- g) Integrated data exchange - the linking of the databases and IT (systems) within the public sector, using standard independent interfaces among the databases and IT systems as well as ensuring authorized external (civil society sector) access to these information resources.
- h) Integrated data exchange system – special-purpose infrastructure that facilitates integrated data exchange.
- i) Interoperability Exchange Point – the name of the integrated data exchange system in Sint Maarten.
- j) Single Source of Truth – Is an information technology design principle where structuring information models and associated data schema is done in such a fashion that every element of data is mastered (located) in only one place and all other references to this data element are by reference only. The entity that holds that specific type of data or information where is deemed to be authoritative.
- k) Registry – A collection of information focused on a specific topic. This term is often used interchangeably with the term database. A database is a structured set of information collected, organized, and stored electronically. Registries use databases today but a registry can exist without having its information stored electronically.

Main Provisions

Article 4: Scope, Subject, and Purpose

- a) The scope of this policy is the elaboration of relevant standards for the support and coordination of the development of ICT systems, methods and procedures for integrated data exchange, and the implementation of such as a unified national policy.
- b) The subject of this policy shall be all entities in the public sector under the Government of Sint Maarten. Where deemed essential by the Government of Sint Maarten, it will extend to authorized external actors that may need to participate in integrated data exchange with the Government of Sint Maarten or which are deemed as part of critical infrastructure by the Government of Sint Maarten.
- c) The purpose of this policy is to implement an integrated data exchange system for entities in the public sector under the Government of Sint Maarten and, where deemed essential, authorized external actors.

Article 5: Management, Operations and Enforcement of the Policy

- a) The Council of Ministers of the Government of Sint Maarten shall designate a person or entity (hereafter called the Designee) responsible for the coordination, day-to-day management, continued functioning and enforcement of this policy.
- b) The Council of Ministers of the Government of Sint Maarten shall delegate the following powers to the Designee under the provisions of this policy:
 - (i) Identification of all entities in the public sector subject to this policy;
 - (ii) Identification of all critical ICT infrastructure assets and systems subject to this policy;
 - (iii) Identification of Single Sources of Truth subject to this policy;
 - (iv) ICT audit of all systems and data / information under this policy to identify risks related to information security and to data quality;
 - (v) Development of all national policy related information security, data protection and privacy;
 - (vi) Development of all standards and procedures related to integrated data exchange including information security, data protection and privacy;
 - (vii) Development and continued refinement of the system architecture of the integrated data exchange system;
 - (viii) Development and implementation of awareness raising activities subject to the scope of this policy;
 - (ix) Establishment of an integrated data exchange system that ensures access to and flow of information as mandated by the Government of Sint Maarten;
 - (x) Monitoring and day-to-day operation of the integrated data exchange system;
 - (xi) All information security matters related to the integrated data exchange system;
 - (xii) All privacy and data protection matters related to integrated data exchange;

- (xiii) All matters related to enforcement of this policy;
- (xiv) Development of draft legislative acts as requested by the Council of Ministers as it relates to the subject of this policy;
- (xv) Establishment of relations with local, international, and foreign organizations, public institutions and subjects of private law that operate in the field of ICT to further research and innovation in the field of data exchange;
- (xvi) Research and development of innovative technologies that may further integrate data exchanges;
- (xvii) Regular status reporting on the state and nature of data exchange to the Council of Ministers or when requested by the Council; and
- (xviii) Exercise all other powers delegated by the Council of Ministers.

Article 6: Policy Enforcement

- a) The Council of Ministers of the Government of Sint Maarten shall exercise all and final control of all matters and provisions of this policy.
- b) All parties subject to but not in compliance with the provisions of this policy shall be subject to sanction by the Council of Ministers. The type and nature of sanction shall be determined by the Council of Ministers.
- c) The Designee, responsible for the coordination, day to day management, continued functioning and enforcement of this policy shall refer all non-compliance to the Council of Ministers for further action.

Data Interoperability Policy Provisions

Article 7: Data Interoperability

- a) All data exchange shall occur via the integrated data exchange system as described below unless otherwise subject to the provisions of the exemption clause of this policy.
- b) The integrated data exchange system shall consist of the following elements: 1) the Common Data Model, 2) Government of Sint Maarten Data Interoperability Exchange Point (IEP).

Article 8: Common Data Model

- a) The Government of Sint Maarten will establish and publish a common data model. The common data model represents concepts, activities and structures that are commonly used and well understood and should form the foundation of new development and refactoring of existing systems where feasible. The purpose of the common data model is to provide a reference data model to all entities subject to this policy so that applications, services, platforms, etc. within the scope of this policy may share a common data format, metadata and semantics ensuring the data can be used, shared, and analyzed more easily across Government entities.
- b) The common data model recommended for use shall be based on the open-source Open Data Initiative as referenced at <https://github.com/microsoft/CDM>.

- c) The Government of Sint Maarten shall publish extensions or accelerators that shall assist Government entities and the private sector to use the common data model for enabling horizontal consistency of business data. Accelerators permit the extension of the common data model with specific functionality targeted at niche sectors and uses while offering a tailored experience for those specific sectors of the government and their unique needs. Where possible, the Government of Sint Maarten will attempt to make use of industry specific open-sourced and already published accelerators, e.g. health, finance, education, etc.
- d) Any party may submit extensions for consideration and approval that aids the Government of Sint Maarten in extending the common data model. These considerations will be evaluated on technical merit by the Designee, and based on their recommendation, subject to final approval by the Council of Ministers.

Article 9: Data Interoperability Exchange Point (IEP)

- a) Exchange of data between all subject to this policy shall occur via an integrated data exchange system called the Government of Sint Maarten Data Interoperability Exchange Point unless otherwise exempted.
- b) The Interoperability Exchange Point shall be under the day-to-day control and management of the Designee.
- c) The Interoperability Exchange Point will ensure secure ingress and egress transmission of data between itself and all clients.
- d) The Interoperability Exchange Point will, at minimum, provide: common interfaces for clients to connect to for the purpose of exchanging or sharing data, the ability to route data to one or multiple recipients, the ability to push notifications and data out to clients, and the ability to enforce security policy.
- e) Those subject to this policy that are using the common data model may communicate with other applications, services and platforms directly as long as the following conditions are met: 1) both parties are using the same common data model, 2) there is a mechanism provided by the Government of Sint Maarten, the open-source community or a recognized vendor that provides industry standard interfaces to the common data model, 3) the Designee has approved this usage.

Article 10: New Development

- a) All new development by those under the scope of this policy of systems, services, platforms, etc. post the effective date of this policy, shall make all attempts to use the common data model as a base for development of the database/storage layer of their specific work unless otherwise exempted.
- b) All new development that either needs to integrate with other systems or will need to in the future, shall submit their system design and seek final approval of the designee with right of appeal to the Council of Ministers before commencing new development.

Article 11: Existing Systems

- a) Existing systems are not subject to the use of the common data model requirement in cases of routine maintenance, additional of new features, bug fixes etc.
- b) Where an existing system, platform or service is being substantively re-written or changed, it shall be subject to the common data model requirement. Examples of a substantive re-write or revision include: where a new programming language is being used to re-write the application, service or platform, where an entire layer of the application is being modified, or where greater than 50% of the codebase is being modified. The Designee will be charged with making the final determination using the guidance above.
- c) All existing systems that do not use the common data model as a base will be required to exchange data via the Government of Sint Maarten Data Interoperability Exchange Point. Point to point or ad-hoc exchange of data is not permitted.

- d) Existing systems that work with classified data and information and other matters of national security will be provided with separate and segregated access to the integrated data exchange system. Any exchange of information between the classified integrated data exchange system and the non-classified integrated data exchange system shall be subject to additional security requirements and constraints as determined by the Designee and approved by the Council of Ministers.

Article 12: Single Source of Truth

- a) Under this policy, designated entities and sources of data or information (registries) will be identified as owners of key data or information (Single Source of Truth) essential for the continued functioning of the Government of Sint Maarten.
- b) Those identified as a Single Source of Truth shall be deemed as authoritative for the data contained in those registries. They will be responsible for the maintenance and quality of their data and information.
- c) Data identified as a Single Source of Truth will be provided securely to authorized parties via the integrated data exchange system upon request.
- d) No other entity under the scope of this policy shall duplicate data contained in Single Sources of Truth unless approved by the Council of Ministers under exceptional circumstances.

Article 13: Third Parties

- a) External entities are not subject to the common data model requirement even if they interact with and exchange data with the Government of Sint Maarten unless they voluntarily choose to do so.
- b) Third parties exchanging data with the Government of Sint Maarten will be required to use the Government of Sint Maarten Data Interoperability Exchange Point.

Article 14: Security

- a) The Government of Sint Maarten Data Interoperability Exchange Point shall undergo yearly security audits by an independent third party.
- b) The results of these audits will be presented to the Council of Ministers.
- c) The Council of Ministers may request security audits more frequently at their discretion.
- d) All data exchange, storage and transmission shall be done in a secure format using industry standard good practices.

Article 15: Appeals

- a) All parties subject to this policy may appeal to the Council of Ministers. The Council of Ministers will entertain requests for appeals at their discretion and with consult of the Designee. The Council of Ministers will provide an appeal mechanism. All decisions by the Council of Ministers are final.

Article 16: Exemptions

- a) Exemptions for rare and unusual circumstances may be granted on a case-by-case basis subject to approval by the Council of Ministers. The burden of proof shall be on the party seeking the exemptions. The Council of Ministers will entertain requests for exemptions at their discretion.

Article 17: Effective Date

- a) This policy shall take effect on XXXX (Date to be determined by Council of Ministers)

© 2017 The World Bank
1818 H Street NW, Washington DC 20433
Telephone: 202-473-1000; Internet: www.worldbank.org

Some rights reserved

This work is a product of the staff of The World Bank. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of the Executive Directors of The World Bank or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Rights and Permissions

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Attribution—Please cite the work as follows: “World Bank. {YEAR OF PUBLICATION}. {TITLE}. © World Bank.”

All queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: pubrights@worldbank.org.