

DUBAI BLOCKCHAIN POLICY

مجالس دبي للمستقبل
DUBAI FUTURE COUNCILS
التعاملات الرقمية
Blockchain





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BACKGROUND

H. H. Sheikh Mohammed Bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and the Ruler of Dubai, set forth his vision to make Dubai the happiest city on earth. To achieve that goal, Dubai has embarked upon a comprehensive smart city initiative, led by the Smart Dubai City Office ("**SDO**") supported by Smart Dubai Government Establishment ("**SDGE**"), the technology arm of Smart Dubai and the Dubai Data Establishment ("**DDE**").

SDO oversees and facilitates Dubai's city wide smart transformation. It aims to empower, deliver and promote an efficient, seamless, safe and impactful city experience for residents and visitors. The office is committed to a collaborative and agile approach to Dubai's smart city transformation by empowering strategic partnerships with the public and private sectors and academia.

SDO realizes the potential benefits of adopting Blockchain as an enabling technology for the Government of Dubai. These benefits include efficiency, transparency, trust, integrity and further supports Emirate's transformation into a paperless government as set out in the Dubai Paperless Strategy. Therefore, SDO has developed this Dubai Blockchain Policy to set out the Dubai Government direction and applicable rules with respect to the deployment of Blockchain in government processes and by Dubai Government Entities.



CHAPTER ONE

Definitions, Objectives, Scope of Application, and Policy Governance

Article (1) Definitions

The following words and expressions, wherever mentioned in this Policy, will have the meaning ascribed to them below unless the context explicitly provides otherwise:

API:	Application Programming Interface is a software intermediary that allows applications to communicate with each other.
Applicable Laws and Regulations:	Dubai laws and regulations and federal UAE laws and regulations as applicable in the Emirate of Dubai.
Blockchain Network:	A network of entities or devices connected together utilizing Blockchain to jointly manage and share a ledger and perform transactions.
Blockchain Platform:	The underlying infrastructure on which a Blockchain Network is operated and managed.
Blockchain Protocol:	A process, encoded in software, by which the nodes in a Blockchain Network communicate and update the ledger in agreement with each other.
Blockchain:	A type of Distributed Ledger Technology that is based on blocks of information that are interlinked and secured using cryptographic hashes.
Certification Authority:	A certification authority (CA) is a trusted entity that manages and issues digital certificates that are used for identification, encryption, and digital signature.
Competent Entity:	The entity with legal mandate on the subject matter in relation to the implementation of this Policy.
Data Providers:	Federal Government Entities, Local Government Entities, and Persons determined by the Competent Entity.
Data:	Shall have the definition ascribed to it under the Dubai Data Law which provides: A collection of organized or unorganized information, facts, concepts, instructions, observations, or measurements, in the form of numbers, alphabets, symbols, images, or any other form, that are collected produced, or processed by Data Providers. This also includes "information" wherever mentioned in the Dubai Data Law.
Database:	An organized collection of Data stored electronically, that can be accessed, manipulated, updated, and deleted.
DDE:	The Dubai Data Establishment established pursuant to law number (2) 2016.



DESC:	The Dubai Electronic Security Center established pursuant to law number (11) 2014.
Digital Certificate:	An electronic document used to prove the ownership of a public key as part of an asymmetric cryptography system.
Digital Identity:	An online or networked identity adopted or claimed in cyberspace by an individual, organization or electronic device.
Digital Signature:	A digital code which is generated and authenticated through asymmetric cryptography mechanisms and attached to an electronically transmitted message or document to verify its content and its author's identity.
Distributed Ledger Technology (DLT):	Collection of database technologies featuring replicated and synchronized history of transactions that is shared in a decentralized manner among network users.
Dubai Data Law:	Law No. (26) of 2015 Regulating Data Dissemination and Exchange in the Emirate of Dubai.
Dubai Data Policies	Resolution No. (2) of 2017 Approving the Policies Document on Classification, Dissemination, Exchange, and Protection of Data in the Emirate of Dubai issued by the Chairman of the Board of Directors of the Smart Dubai City Office.
Dubai Data:	Shall have the definition ascribed to it under the Dubai Data Law which provides: The Data which is available to Data Providers and is related to the Emirate.
Dubai Government Entity:	Government departments, authorities, and public corporations, including Dubai free zone authorities, Government councils, and committees in the Emirate.
Emirate:	The Emirate of Dubai.
Executive Council	The Executive Council of Dubai established pursuant to Dubai Law No. (3) of 2003.
Government:	The Government of Dubai.
Intellectual Property Rights:	Shall have the definition ascribed to it under the Dubai Data Law which provides: These include patents; rights to inventions; copyright and related rights; trademarks and service marks; trade names and domain names; rights in trade dress; goodwill; the right to sue for passing off or for unfair competition; rights in designs; rights in computer software; rights to use and to protect the confidentiality of confidential information, including know-how and trade secrets; and all other intellectual property rights, in each case whether registered or unregistered and including all applications and rights to apply for renewals or extensions of and rights to claim priority from such rights, and all similar or equivalent forms of protection which subsist or will subsist, now or in the future, in any part of the world.
Network Operator:	An entity or consortium of entities who lead and govern a Blockchain Network and make executive decisions.



Node:	An entity or device storing and sharing a full copy of the ledger and potentially contributing to the Blockchain Network by validating transactions and updating the ledger.
Participant:	A user / entity on a Blockchain Network.
Policy:	This Dubai Blockchain Policy.
Private Sector Entity:	Any for-profit or non-profit non-governmental legal entity, including sole proprietorships in the Emirate.
Private Sector:	The part of the Emirates' economy which consists of industries and commercial companies that are not owned or controlled by the Government.
SDO:	The Smart Dubai City Office established pursuant to law number (29) 2015.
Sector Regulator:	The relevant sectoral regulator with legal mandate to regulate specific entities or activities relating to the activity of the mentioned industry or sector.
Shared Data:	Shall have the definition ascribed to it under the Dubai Data Law which provides: The Dubai Data which is exchanged among Data Providers in accordance with the relevant conditions and rules determined by the Competent Entity.
Smart Contract:	A computer program that is stored and executed in a Blockchain Network, containing business logic which is composed of self-executing functions and has, either partially or fully, the terms and conditions of an agreement between parties written into its lines of code, thereby enabling the digital performance and execution thereof.
Stakeholder:	Any individual, group, or organization that might affect, be affected by, or perceive itself to be affected by the policy.
Transaction:	A single unit of logic or work, made up of one or multiple operations that needs to occur in whole or not at all. Successful transactions are written permanently on the Blockchain, while unsuccessful ones are rejected and not persisted. A transaction must change the state of data managed on the Blockchain and may fail if the change would breach predefined rules defined either in the Blockchain software or a smart contract.
UAE:	The United Arab Emirates.
Use Case:	A series of related interactions between a user and a system that enables the user to achieve a goal.

Article (2) Policy Objectives

1. This Policy sets out the rules applicable to Dubai Government Entities, Blockchain Networks and Private Sector Participants in relation to the deployment and usage of Blockchain in Government transactions or Use Cases.
2. This Policy provides Private Sector Entities with guidance in relation to the deployment and usage of Blockchain in Private Sector transactions.

Article (3) Policy Scope and Application

- 1 This Policy is the Emirate's public Policy in respect to and will apply of:
 - a. Dubai Government Entities which intend to deploy Blockchain or to form a new Blockchain Network or join an existing one.
 - b. Private Sector Participants that aim to join a Dubai Government Blockchain Network or a Government-hosted Blockchain Platform.
 - c. Blockchain Networks and Platforms formed or hosted or joined by a Dubai Government Entity or deployed for a Dubai Government Use Case as the case may be.
- 2 This Policy addresses all relevant aspects of Blockchain implementation relating to the Emirate. The requirements defined in this Policy provide the rules applicable to the Dubai Government Entities deploying Blockchain on a Government Use Case or joining a Blockchain Network and to Private Sector Participants in a Government Blockchain Network or a Government Use Case.
- 3 The relevant stakeholders of this Policy shall comply with this Policy and further applicable Policy implementation statements as issued and updated from time to time.
- 4 The success of this Policy depends upon the collaboration and commitment from all Dubai Government Entities and Private Sector Participants in the Emirate. Each Dubai Government Entity shall work within the mandated Policy, SDO is mandated with coordinating the Emirate's Blockchain strategy and providing support in executing the Emirate-wide Blockchain Policy.



Article (4) Policy Governance

(a) Policy Owner

The owner of this Policy document is SDO.

(b) Policy Approval

This Policy is approved pursuant to an Executive Council resolution.

(c) Policy Commencement

This Policy comes into force on the day following the day it is published in the Dubai Official Gazette.

(d) Policy Stakeholders

Upon the Commencement of this Policy, relevant Stakeholders shall comply with the provisions in this Policy to develop and implement the required frameworks supporting this Policy implementation as directed under this Policy.

CHAPTER TWO

Blockchain Network Formation and Governance

Article (5) Network Formation

Government Blockchain Networks formed in the Emirate are required to be approved by SDO, who will ensure that value-creating Blockchain Networks are created efficiently and effectively across the Government, SDO is hereby authorized to:

- 1 Approve the formation of any new Blockchain Network by any Dubai Government Entity after having reviewed the supporting documentation required by SDO and provided by such Entity/Entities and taking into consideration the impact and value proposition of such Blockchain Network.
- 2 Oversee compliance of existing Blockchain Networks that are subject to this Policy and approve any requests to consolidate or dismantle such networks if deemed necessary.
- 3 Assign and re-assign, Network Operators to lead Government Blockchain Networks.
- 4 Create a committee or more of specific Sector Regulators and key Stakeholders to head Government Blockchain Networks formation and governance decisions.



Article (6) On-boarding and Off-boarding

Network Operators of Blockchain Networks subject to this Policy are required to develop clear and transparent procedures and requirements for on-boarding and off-boarding members, specific to the Blockchain Networks and in line with any guidelines published by SDO or the Competent Entity and Applicable Laws and Regulations, whereby:

- 1 They are required to develop, publish and maintain the Blockchain Network's on-boarding and off-boarding procedures and requirements to the existing and prospective members.
- 2 They are required to develop, publish and maintain Terms and Conditions for entities joining the network and any Participants directly interacting with the network to accept prior to joining or interacting.
- 3 They are required to notify SDO of new members joining the Blockchain Network, and shall comply with the direction of SDO in respect of removing any existing members or denying any new members from joining the Blockchain Network where applicable.
- 4 They are required to ensure that all members adhere to the on-boarding and off-boarding procedures, requirements and terms and conditions that are applicable to such Blockchain Networks.

Article (7) Operating Model

Network Operators of Blockchain Networks subject to this Policy are required to develop and maintain a transparent operating model and share it with SDO and any such Competent Entity or Sector Regulator, in line with any guidelines published by SDO, the Competent Entity or Sector Regulator and Applicable Laws and Regulations. The operating model shall contain, without limitation:

- 1 The roles and responsibilities of the different Blockchain Network members, such as transaction validator nodes and auditor nodes, as applicable and in line with any guidelines and taxonomies published by the Competent Entity or the Sector Regulator.
- 2 Consensus mechanisms implemented for validating data and transactions on the Blockchain, in line with any guidelines published by SDO or the Competent Entity.
- 3 Voting mechanisms implemented for reaching agreement on decisions concerning the Blockchain Network, in line with any guidelines published by SDO or the Competent Entity.



- 4 The funding and revenue generation model, in compliance with the Applicable Laws and Regulations governing funding and revenue generation for Government Entities and any guidelines published by the Competent Entity or Sector Regulator.
- 5 Direction on dispute resolution, in compliance with the Applicable Laws and Regulations, and in line with any guidelines published by the Competent Entity and Sector Regulator.

Article (8) Intellectual Property Rights

Dubai Government Entities and Blockchain Network Operators are encouraged to address and define ownership and other Intellectual Property Rights shared or associated or developed in relation to Blockchain Use Cases pursuant to applicable intellectual property laws in the UAE acknowledging where applicable proprietary ownership rights to the Data Provider through a legally binding instrument. Data ownership and data-related Intellectual Property Rights shall further be clearly identified and handled in accordance with the Dubai Data Law and Dubai Data Policies published by DDE and other Applicable Laws and Regulations in the UAE as updated from time to time.

CHAPTER THREE

Blockchain Network Operations

Article (9) Data Formats and Interoperability

Blockchain Networks subject to this Policy shall define and publish standardized data formats across the network and work on enabling interoperability by cooperating with other Blockchain Networks, whereby:

- 1 The developed data formats shall be in alignment with the Primary Registries published by DDE and with any guidelines published by DDE or the Competent Entity, or where applicable Sector Regulator.
- 2 These Blockchain Networks shall uphold the data standards and quality requirements as published by DDE in Dubai Data Standards in addition to any guidelines published by DDE, the Competent Entity or where applicable the Sector Regulator.
- 3 These Blockchain Networks shall prepare the necessary documentation of their data formats and APIs and share it with the Competent Entity in order to promote interoperability and alignment.



Article (10) Data Privacy and Confidentiality

Blockchain Networks subject to this Policy and their Participants shall uphold the data privacy and confidentiality regulations as stipulated by the Dubai Data Law and relevant policies and in alignment with any guidelines published by DDE and the Competent Entity, whereby:

- 1 They are required to classify all Data shared through Blockchain Networks in compliance with DDE's Data Classification Framework.
- 2 They shall observe Data privacy rules applicable to Data they are handling and shall not record any Personally Identifiable Information directly on the ledger of a Blockchain Network, instead they shall implement the proper mechanisms to reference this Data on the ledger securely.
- 3 They shall seek the consent of individuals and Private Entities to share their data through the Blockchain Network, in compliance with DDE's Dubai Data Policies.

Article (11) Security

Blockchain Networks subject to this Policy and their solutions shall comply with DESC's Information Security Regulations and other relevant guidelines, policies, standards and regulations published or endorsed by DESC from time to time.

Article (12) Policy Audit and Compliance

Blockchain Networks subject to this Policy and their Participants shall comply with this Policy in addition to any Applicable Laws and Regulations, policies, and standards whereby:

- 1 They are encouraged to develop network-specific policies in line with this Policy and Applicable Laws and Regulations and share them with SDO and the Competent Entity.
- 2 Network Operators, if assigned, are ultimately responsible for the compliance of the Blockchain Network as a whole and its Participants, without relieving each Participant from their own respective compliance duties and responsibilities.
- 3 Network Operators, if assigned, shall perform regular audits of the Blockchain Network and its Participants for compliance, according to the guidelines published by the Sector Regulators and by the Competent Entity, and shall share the outcomes with the Competent Entity for consideration into its review of compliance with this Policy.
- 4 SDO may conduct audits on Blockchain Networks subject to this Policy as well as their Participants, directly or through an assigned third party, in cooperation with these Blockchain

Networks and their Participants. Outcomes of such audits once conducted shall be shared by SDO with Dubai government executive entities as may be deemed fit by SDO.

- 5 Noncompliant entities are subject to the regulatory actions by the respective Dubai Government Entities, in addition to potential consequences including, but not limited to, being barred from the Blockchain Network and its services or subjected to permissions limitations.

Article (13) Communication and Adoption

Blockchain Networks subject to this Policy and their Participants shall engage in open communication and collaboration regarding adoption of Blockchain, whereby:

- 1 They are required to publish and maintain a communication plan including, without limitation, Blockchain Network services provided, roadmap, future plans, news, and updates of the Blockchain Network.
- 2 They are required to participate in collaboration and knowledge sharing sessions when requested to by the Competent Entity.
- 3 Dubai Government Entities are encouraged to build internal capacity and skill-set for Blockchain and related technologies in order to drive adoption.

CHAPTER FOUR

Blockchain Foundational Capabilities

Article (14) Blockchain Technology Platform and Services

Government Blockchain Networks and solutions are required to be hosted on Blockchain Platforms endorsed by SDO, whereby:

- 1 All Blockchain Use Cases by Dubai Government Entities are required to utilize an endorsed Blockchain Platform by SDO.
- 2 Such use cases shall adopt Blockchain Protocols that are supported by these Blockchain Platforms and endorsed by SDO.
- 3 SDO shall identify from time to time and make known to Government Entities and Stakeholders the endorsed Blockchain Platforms and Protocols where applicable.



Article (15) Architecture and Standards

Blockchain Networks subject to this Policy and their solutions shall adopt and comply with the relevant reference architectures, guidelines, and standards published or endorsed by SDO and Stakeholders mandated under this Policy and Sector Regulators, including but not limited to:

- 1 Dubai Information Security Regulations published by DESC (as updated from time to time).
- 2 Dubai Data Standards published by DDE (as updated from time to time).
- 3 Any guidelines, standards, or regulations currently imposed or introduced in the future by SDO, the Competent Entity and/or Sector Regulators and that are applicable to Blockchain solutions and networks.

Article (16) Shared Network Services

Blockchain Networks subject to this Policy and their solutions are required to utilize the shared services endorsed by SDO, in order to maximize efficiency and ensure consistency across these Blockchain Networks, whereby:

- 1 They are required to utilize Digital Identity and signature services approved and endorsed by SDO as shared Blockchain Network services for identifying individuals and applying their digital signature.
- 2 They shall utilize Digital Certificates obtained from DESC as the Certification Authority, for identifying entities and devices.
- 3 They shall utilize services endorsed by SDO as shared Blockchain Network services in the future, where applicable to these networks.

Article (17) Smart Contracts

Blockchain Networks subject to this Policy that utilize Smart Contracts for legal application or for turning legal obligations into automated processes are required to ensure that all such Smart Contracts are technically and legally reviewed for compliance with requirements under the existing Applicable Laws and Regulations, and that such a Smart Contract is:

- 1 Accessible by all the parties to the Smart Contract.
- 2 Convertible to Arabic or English and readable in exactly the same way by all the parties to the Smart Contract.

- 3 Signed with the Digital Signatures of all the parties to the Smart Contract, after their identification using Digital Identity and their explicit agreement to all the terms and conditions included in a Smart Contract.
- 4 Compliant with any guidelines published by SDO, Stakeholders mandated under this Policy, and where applicable Sector Regulators concerning Smart Contracts.

Article (18) SDO Role

In addition to the functions assigned to it under the Applicable Laws and Regulations, SDO is hereby authorized to provide support required to enable Dubai Government Entities in the Emirate to effectively implement Blockchain in an efficient and correct manner that will result in the uniform implementation and application of Blockchain and, as such, SDO will have the duties and powers to:

1. approve all key plans and decisions in relation to Dubai Government Entities' deployment of Blockchain and authorizing any deviation from this Policy to the extent allowed under this Policy, and coordinating where required with other Dubai Government entities or executive authorities;
2. oversee the implementation of this Policy to ensure alignment in Blockchain implementation and adoption by Dubai Government Entities and throughout the Emirate;
3. provide guidance on Blockchain and network formation in order to address implementation challenges and govern the formation of value-creating Blockchain Networks across the Emirate;
4. play a catalyst role in enabling Dubai Government Entities in adopting Blockchain Technology while ensuring compliance of this Policy and applicable standards issued pursuant thereto;
5. assign any Dubai Government Entity the role to develop and implement any required processes and procedures, standards, controls or requirements in implementation of this Policy as may be required generally, or in support of a specific Use Case, or sector application of Blockchain;
6. exempt any Dubai Government Entity from compliance with certain provisions of this Policy;
7. resolve any dispute arising between Dubai Government Entities in relation to the implementation of this Policy;
8. take the necessary measures regarding acts of non-compliance by Dubai Government Entities or Private Sector Participants with this Policy or any policies, guidelines, standards or implementation documents issued in implementation of this Policy;

Article (19) Policy Review

1. SDO shall review this Policy from time to time as needed to ensure the necessary updates and developments are implemented to this Policy effectively.



2. SDO is responsible for the timely review, update, and dissemination of further policies and procedures issued in implementation of this Policy.

CHAPTER FIVE

Final (closing) Provisions

Article (20) Policy Implementation Impact

- 1 Dubai Government Entities are required to review and update their existing frameworks to comply with this Policy and the requirements set forth under this Policy.
- 2 It is intended that DESC shall develop and implement the required guidelines and standards to support the Policy implementation in relation to Dubai Information Security Regulation.
- 3 It is intended that DDE shall develop and implement the required guidelines and standards to support the Policy implementation in relation to Dubai Data.

Article (21) Public Interest

SDO, Dubai Government Entities, Private Entities, Stakeholders and any other Participants governed by this Policy, must in deployment of Blockchain take the exigencies of public interest and public security into consideration, seeking in particular to:

1. promote the concept of accountability and transparency;
2. protect public health and safety;
3. protect consumers and Use Cases beneficiaries;
4. foster the provision of better Government services;
5. protect public security;
6. enable inter-government collaboration and where applicable international cooperation;
7. foster legislative stability, proper implementation of legislation, and compliance with the principles of governance;
8. support and protect vital economic, academic, and technology sectors to achieve stability, safety, and welfare;
9. prevent crime and protect the safety of individuals; and
10. maintain the UAE infrastructure as well as strategic and vital services.



Article (22) Implementing Resolutions

The Director General of SDO will issue the resolutions required for the implementation of the provisions of this Policy.