MiCA White Paper
Dogecoin (DOGE)

Version 1.1
April 2025

White Paper in accordance with Markets in Crypto Assets Regulation (MiCAR)
for the European Economic Area (EEA).

Purpose: seeking admission to trading in EEA.

Prepared and Filed by LCX.com

NOTE: THIS CRYPTO-ASSET WHITE PAPER HAS NOT BEEN APPROVED BY ANY COMPETENT
AUTHORITY IN ANY MEMBER STATE OF THE EUROPEAN ECONOMIC AREA. THE PERSON SEEKING
ADMISSION TO TRADING IS SOLELY RESPONSIBLE FOR THE CONTENT OF THIS CRYPTO-ASSET
WHITE PAPER ACCORDING TO THE EUROPEAN ECONOMIC AREA'S MARKETS IN CRYPTO-ASSET
REGULATION (MICA).

LCX is voluntarily filing a MiCA-compliant white paper for Dogecoin (DOGE), even though DOGE is classified
as an "Other Crypto-Asset" under MiCA and is not legally required to have a MiCA white paper. MiCA permits
service providers to publish a white paper voluntarily to enhance transparency, regulatory clarity, and investor
confidence. Dogecoin, one of the most widely recognized meme-based cryptocurrencies, plays a notable role
in the digital asset ecosystem as a medium for tipping, micro-payments, and community-driven fundraising.
This white paper provides comprehensive regulatory disclosure, ensuring market participants have clear
insights into Dogecoin's functionality, risks, and its alignment with MiCA's principles.

This document provides essential information about **Dogecoin**'s characteristics, risks, and the framework
under which LCX facilitates DOGE-related services in compliance.

This white paper has been prepared in accordance with the requirements set forth in Commission
Implementing Regulation (EU) 2024/2984, ensuring that all relevant reporting formats, content specifications,
and machine-readable structures outlined in Annex I of this regulation have been fully mapped and
implemented, particularly reflected through the Recitals, to enable proper notification under the Markets in
Crypto-Assets Regulation (MiCAR).

Copyright:

00   TABLE OF CONTENT

01   DATE OF NOTIFICATION

2025-04-07

COMPLIANCE STATEMENTS

02   This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Economic Area. The offeror of the crypto-asset is solely responsible for the content of this crypto-asset white paper.

Where relevant in accordance with Article 6(3), second subparagraph of Regulation (EU) 2023/1114, reference shall be made to 'person seeking admission to trading' or to 'operator of the trading platform' instead of 'offeror'.

03   This crypto-asset white paper complies with Title II of Regulation (EU) 2023/1114 and, to the best of the knowledge of the management body, the information presented in the crypto-asset white paper is fair, clear and not misleading and the crypto-asset white paper makes no omission likely to affect its import.

04   The crypto-asset referred to in this white paper may lose its value in part or in full, may not always be transferable and may not be liquid.

05   Not applicable

06   The crypto-asset referred to in this white paper is not covered by the investor compensation schemes under Directive 97/9/EC of the European Parliament and of the Council.The crypto-asset referred to in this white paper is not covered by the deposit guarantee schemes under Directive 2014/49/EU of the European Parliament and of the Council.

SUMMARY

07   Warning

This summary should be read as an introduction to the crypto-asset white paper. The prospective holder should base any decision to purchase this crypto-asset on the content of the crypto-asset white paper as a whole and not on the summary alone. The offer to the public of this crypto-asset does not constitute an offer or solicitation to purchase financial instruments and any such offer or solicitation can be made only by means of a prospectus or other offer documents pursuant to the applicable national law.

This crypto-asset white paper does not constitute a prospectus as referred to in Regulation (EU) 2017/1129 of the European Parliament and of the Council (36) or any other offer document pursuant to Union or national law.

08   Characteristics of the crypto-asset

Dogecoin (DOGE) is an open-source, peer-to-peer cryptocurrency created in 2013 as a lighthearted project inspired by the "Doge" internet meme. It operates on its own blockchain and is primarily used as a digital currency for tipping, charitable fundraising, and everyday payments within its community. Dogecoin features a Proof-of-Work consensus mechanism similar to Bitcoin and Litecoin, offering fast block times (1 minute) and low transaction fees, which make it suitable for small transactions.

09   Not applicable

10   Key information about the offer to the public or admission to trading

Dogecoin has developed into a widely traded digital asset with significant adoption across various user groups. It operates on its own public blockchain and uses a proof-of-work consensus mechanism based on the Scrypt algorithm. The network is merge-mined with Litecoin, enhancing its security and enabling miners to validate both blockchains simultaneously.

This whitepaper is prepared in compliance with MiCA regulations to provide transparency regarding DOGE's listing and trading. Since DOGE is already widely circulated and traded globally, this document does not represent a new issuance, public offering, or token sale but instead provides essential information about its admission to trading under the MiCA framework.

LCX facilitates the admission to trading of DOGE on its regulated trading platform, ensuring compliance with MiCA regulations and providing a secure and transparent marketplace for DOGE trading.

Total offer amount	Not applicable
Total number of tokens to be offered to the public	Not applicable
Subscription period	Not applicable
Minimum and maximum subscription amount	Not applicable
Issue price	Not applicable
Subscription fees (if any)	Not applicable
Target holders of tokens	Not applicable
Description of offer phases	Not applicable

CASP responsible for placing the token (if any)	Not applicable
Form of placement	Not applicable
Admission to trading	LCX AG, Herrengasse 6, 9490 Vaduz, Liechtenstein

A. PART A - INFORMATION ABOUT THE OFFEROR OR THE PERSON SEEKING ADMISSION TO TRADING

A.1 Name

LCX

A.2 Legal Form

AG

A.3 Registered Address

Herrengasse 6, 9490 Vaduz, Liechtenstein

A.4 Head Office

Herrengasse 6, 9490 Vaduz, Liechtenstein

A.5 Registration Date

24.04.2018

A.6 Legal Entity Identifier

529900SN07Z6RTX8R418

A.7 Another Identifier Required Pursuant to Applicable National Law

FL-0002.580.678-2

A.8 Contact Telephone Number

+423 235 40 15

A.9 E-mail Address

legal@lcx.com

A.10 Response Time (Days)

020

A.11 Parent Company

Not applicable

A.12 Members of the Management Body

Full Name	Business Address	Function
Monty C. M. Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	President of the Board
Katarina Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	Board Member
Anurag Verma	Herrengasse 6, 9490 Vaduz, Liechtenstein	Director of Technology

A.13 Business Activity

LCX provides various crypto-asset services under Liechtenstein's Token and Trusted Technology Service Provider Act ("Token- und Vertrauenswürdige Technologie-Dienstleister-Gesetz" in short "TVTG") also known as the Blockchain Act. These include custody and administration of crypto-assets, offering secure storage for clients' assets and private keys. LCX operates a trading platform, facilitating the matching of buy and sell orders for crypto-assets. It enables both crypto-to-fiat and crypto-to-crypto exchanges, ensuring compliance with AML and KYC regulations. LCX also supports token placements, marketing crypto-assets on behalf of offerors.

Under MiCA, LCX is classified as a Crypto-Asset Service Provider (CASP). LCX is not yet formally supervised under MiCA until the license is granted by the competent authority. LCX AG has applied

for MiCA licensing on February 1, 2025, the first day of MiCA's implementation in Liechtenstein.

Under the TVTG framework, LCX provides:

- TT Depositary – Custody and safekeeping of crypto-assets.
- TT Trading Platform Operator – Operation of a regulated crypto-asset exchange.
- TT Exchange Service Provider – Crypto-to-fiat and crypto-to-crypto exchange.
- Token Issuer – Marketing and distribution of tokens.
- TT Transfer Service Provider – Crypto-asset transfers between ledger addresses.
- Token Generator & Tokenization Service Provider – Creation and issuance of tokens.
- Physical Validator – Enforcement of token-based rights on TT systems.
- TT Verification & Identity Service Provider – Legal capacity verification and identity registration.
- TT Price Service Provider – Providing aggregated crypto-asset price information.

A.14   Parent Company Business Activity

Not applicable

A.15   Newly Established

false

A.16   Financial Condition for the past three Years

LCX AG has a strong capital base, with CHF 1 million (approx. 1,126,000 USD) in share capital (Stammkapital) and a solid equity position (Eigenkapital) in 2023. The company has experienced fluctuations in financial performance over the past three years, reflecting the dynamic nature of the crypto market. While LCX AG recorded a loss in 2022, primarily due to a market downturn and a security breach, it successfully covered the impact through reserves. The company has remained financially stable, achieving revenues and profits in 2021, 2023 and 2024 while maintaining break-even operations.

In 2023 and 2024, LCX AG strengthened its operational efficiency, expanded its business activities, and upheld a stable financial position. Looking ahead to 2025, the company anticipates positive financial development, supported by market uptrends, an inflow of customer funds, and strong business performance. Increased adoption of digital assets and service expansion are expected to drive higher revenues and profitability, further reinforcing LCX AG's financial position.

A.17   Financial Condition Since Registration

LCX AG has been financially stable since its registration, supported by CHF 1 million in share capital (Stammkapital) and continuous business growth. Since its inception, the company has expanded its operations, secured multiple regulatory registrations, and established itself as a key player in the crypto and blockchain industry.

While market conditions have fluctuated, LCX AG has maintained strong revenues and break-even operations. The company has consistently reinvested in its platform, technology, and regulatory compliance, ensuring long-term sustainability. The LCX Token has been a fundamental part of the ecosystem, with a market capitalization of approximately $200 million USD and an all-time high exceeding $500 million USD in 2022. Looking ahead, LCX AG anticipates continued financial growth, driven by market uptrends, increased adoption of digital assets, and expanding business activities.

B.   PART B - INFORMATION ABOUT THE ISSUER, IF DIFFERENT FROM THE OFFEROR OR PERSON SEEKING ADMISSION TO TRADING[1]

B.1   Issuer different from offeror or person seeking admission to trading

True

B.2   Name

Dogecoin Foundation, Inc.

B.3   Legal Form

Non-profit Corporation

B.4   Registered Address

3725 Cleveland Ave, Unit H, Wellington, Colorado 80549, United States

B.5   Head Office

2045 NW First Avenue, Miami, Florida 33127, United States

B.6   Registration Date

March 12, 2025

B.7   Legal Entity Identifier

Not applicable

B.8   Another Identifier Required Pursuant to Applicable National Law

Not applicable

B.9   Parent Company

Not applicable

B.10   Members of the Management Body

- Lachlan DeFrancesco – President and Vice President
- Timothy Stebbing – Executive Director and CTO
- Michi Lumin – Principal Engineer
- Marshall Hayner – Board Member
- Jens Wiechers – Legal and Governance President

B.11   Business Activity

The Dogecoin Foundation is dedicated to supporting the Dogecoin cryptocurrency through development and advocacy. Its activities include:

- Developing and maintaining the Dogecoin blockchain and related technologies.
- Defending the Dogecoin trademark to prevent misuse.
- Providing a roadmap for the future of Dogecoin.
- Engaging in community outreach and education to promote Dogecoin adoption.

B.12   Parent Company Business Activity

Not applicable

---

[1] **[19-04-2025]** All information available in the public domain regarding the issuer has been added in Part- B

C. PART C - INFORMATION ABOUT THE OPERATOR OF THE TRADING PLATFORM IN CASES WHERE IT DRAWS UP THE CRYPTO-ASSET WHITE PAPER AND INFORMATION ABOUT OTHER PERSONS DRAWING THE CRYPTO-ASSET WHITE PAPER PURSUANT TO ARTICLE 6(1), SECOND SUBPARAGRAPH, OF REGULATION (EU) 2023/1114

C.1 Name

LCX AG

C.2 Legal Form

AG

C.3 Registered Address

Herrengasse 6, 9490 Vaduz, Liechtenstein

C.4 Head Office

Herrengasse 6, 9490 Vaduz, Liechtenstein

C.5 Registration Date

24.04.2018

C.6 Legal Entity Identifier

529900SN07Z6RTX8R418

C.7 Another Identifier Required Pursuant to Applicable National Law

FL-0002.580.678-2

C.8 Parent Company

Not Applicable

C.9 Reason for Crypto-Asset White Paper Preparation

LCX is preparing this MiCA-compliant white paper for Dogecoin (DOGE) pursuant to Article 6(1), second subparagraph of Regulation (EU) 2023/1114, as the operator of the trading platform seeking admission of DOGE to trading. While Dogecoin qualifies as an "Other Crypto-Asset" and is not required to have a white paper by law, LCX is voluntarily submitting this document to promote transparency, regulatory clarity, and investor confidence. This initiative supports compliance readiness under MiCAR and aligns with the regulation's disclosure standards for crypto-asset trading platforms.

C.10 Members of the Management Body

Full Name	Business Address	Function
Monty C. M. Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	President of the Board
Katarina Metzger	Herrengasse 6, 9490 Vaduz, Liechtenstein	Board Member
Anurag Verma	Herrengasse 6, 9490 Vaduz, Liechtenstein	Director of Technology

C.11 Operator Business Activity

LCX provides various crypto-asset services under Liechtenstein's Token and Trusted Technology Service Provider Act ("Token- und Vertrauenswürdige Technologie-Dienstleister-Gesetz" in short "TVTG") also known as the Blockchain Act. These include custody and administration of crypto-assets, offering secure storage for clients' assets and private keys. LCX operates a trading platform, facilitating the matching of buy and sell orders for crypto-assets. It enables both crypto-to-fiat and crypto-to-crypto exchanges, ensuring compliance with AML and KYC regulations. LCX also supports token placements, marketing crypto-assets on behalf of offerors.

Under MiCA, LCX is classified as a Crypto-Asset Service Provider (CASP). LCX is not yet formally supervised under MiCA until the license is granted by the competent authority. LCX AG has applied for MiCA licensing on February 1, 2025, the first day of MiCA's implementation in Liechtenstein..

Under the TVTG framework, LCX provides:

- TT Depositary – Custody and safekeeping of crypto-assets.
- TT Trading Platform Operator – Operation of a regulated crypto-asset exchange.
- TT Exchange Service Provider – Crypto-to-fiat and crypto-to-crypto exchange.
- Token Issuer – Marketing and distribution of tokens.
- TT Transfer Service Provider – Crypto-asset transfers between ledger addresses.
- Token Generator & Tokenization Service Provider – Creation and issuance of tokens.
- Physical Validator – Enforcement of token-based rights on TT systems.
- TT Verification & Identity Service Provider – Legal capacity verification and identity registration.
- TT Price Service Provider – Providing aggregated crypto-asset price information.

C.12   Parent Company Business Activity

Not Applicable

C.13   Other persons drawing up the white paper under Article 6 (1) second subparagraph MiCA

Not Applicable

C.14   Reason for drawing up the white paper under Article 6 (1) second subparagraph MiCA

Not Applicable

D. PART D - INFORMATION ABOUT THE CRYPTO-ASSET PROJECT

D.1 Crypto-Asset Project Name

Dogecoin

D.2 Crypto-Assets Name

Dogecoin

D.3 Abbreviation

Doge

D.4 Crypto-Asset Project Description

Dogecoin was created in December 2013 by software engineers Billy Markus and Jackson Palmer as a fun and light-hearted spin on cryptocurrency. The Dogecoin blockchain is a fork of Litecoin (which itself is a fork of Bitcoin), and it inherits a similar technical architecture including the UTXO (unspent transaction output) transaction model and Proof-of-Work consensus, with some key differences in parameters (notably a 1-minute block time and use of the Scrypt hashing algorithm instead of Bitcoin's SHA-256).

D.5 Details of all persons involved in the implementation of the crypto-asset project

Dogecoin is an open-source blockchain with no central issuer. It is maintained by a decentralized network of developers, validators, node operators, and users worldwide.

Full Name	Business Address	Function
Billy Markus	*Not applicable*	*Co-founder & Early Developer*
Jackson Palmer	*Not applicable*	*Co-founder*
Dogecoin Foundation	*3725 Cleveland Ave, Unit H, Wellington, Colorado 80549, United States*	*Project stewardship and advocacy*
Dogecoin Core Developers	*Global*	*Software development and maintenance*
Dogecoin Miners	*Global*	*Transaction validation & network security*
Node Operators	*Global*	*Network operation & consensus enforcement*

D.6 Utility Token Classification

false

D.7 Key Features of Goods/Services for Utility Token Projects

Not applicable

D.8 Plans for the Token

Not applicable

D.9 Resource Allocation

Not applicable

D.10 Planned Use of Collected Funds or Crypto-Assets

Not applicable

E. PART E - INFORMATION ABOUT THE OFFER TO THE PUBLIC OF CRYPTO-ASSETS OR THEIR ADMISSION TO TRADING

E.1   Public Offering or Admission to Trading

ATTR

E.2   Reasons for Public Offer or Admission to Trading

LCX is preparing this MiCA-compliant white paper for Dogecoin (DOGE) pursuant to Article 6(1), second subparagraph of Regulation (EU) 2023/1114, as the operator of the trading platform seeking admission of DOGE to trading. While Dogecoin qualifies as an "Other Crypto-Asset" and is not required to have a white paper by law, LCX is voluntarily submitting this document to promote transparency, regulatory clarity, and investor confidence. This initiative supports compliance readiness under MiCAR and aligns with the regulation's disclosure standards for crypto-asset trading platforms.

E.3   Fundraising Target

Not applicable

E.4   Minimum Subscription Goals

Not applicable

E.5   Maximum Subscription Goal

Not applicable

E.6   Oversubscription Acceptance

Not applicable

E.7   Oversubscription Allocation

Not applicable

E.8   Issue Price

Not applicable

E.9   Official Currency or Any Other Crypto-Assets Determining the Issue Price

Not applicable

E.10   Subscription Fee

Not applicable

E.11   Offer Price Determination Method

Not applicable

E.12   Total Number of Offered/Traded Crypto-Assets

Dogecoin has a circulating supply that grows over time due to mining. As of March 2025, approximately 150 billion DOGE are in circulation (with the exact number increasing by the minute as new blocks are mined). Importantly, Dogecoin does not have a capped maximum supply. Instead, its monetary policy is disinflationary-inflation: after reaching 100 billion coins in mid-2015, Dogecoin's protocol continues to mint 10,000 DOGE per block (roughly one block per minute), which equates to about 5.256 billion new DOGE per year.

E.13   Targeted Holders

ALL

E.14   Holder Restrictions

Not applicable

E.15   Reimbursement Notice

Not applicable

E.16   Refund Mechanism

Not applicable

E.17   Refund Timeline

Not applicable

E.18   Offer Phases

Not applicable

E.19   Early Purchase Discount

Not applicable

E.20   Time-Limited Offer

Not applicable

E.21   Subscription Period Beginning

Not applicable

E.22   Subscription Period End

Not applicable

E.23   Safeguarding Arrangements for Offered Funds/Crypto-Assets

Not applicable

E.24   Payment Methods for Crypto-Asset Purchase

Not applicable

E.25   Value Transfer Methods for Reimbursement

Not applicable

E.26   Right of Withdrawal

Not applicable

E.27   Transfer of Purchased Crypto-Assets

Not applicable

E.28   Transfer Time Schedule

Not applicable

E.29   Purchaser's Technical Requirements

Not applicable

E.30   Crypto-asset service provider (CASP) name

Not applicable

E.31   CASP identifier

Not applicable

E.32   Placement Form

NTAV

E.33   Trading Platforms name

LCX AG

E.34 Trading Platforms Market Identifier Code (MIC)

LCXE

E.35 Trading Platforms Access

Dogecoin (DOGE) is already widely accessible on a number of both regulated and unregulated cryptocurrency trading platforms worldwide. As a decentralized asset with no issuer, DOGE is not confined to any single platform. Retail and institutional investors globally can acquire DOGE through dozens of exchanges, brokerages, or peer-to-peer transactions. LCX Exchange supports DOGE trading (pair DOGE/EUR). To access DOGE trading on LCX, users must have an LCX account and complete the platform's KYC verification, as LCX operates under strict compliance standards. Trading on LCX is available via its web interface and APIs to verified customers.

E.36 Involved Costs

Not applicable

E.37 Offer Expenses

Not applicable

E.38 Conflicts of Interest

Not applicable

E.39 Applicable Law

Not applicable – DOGE as a crypto-asset itself is not governed by any specific national law or jurisdiction. Dogecoin is a decentralized network that operates on a global scale, and DOGE tokens exist on the blockchain independent of legal jurisdiction. There is no contractual framework (like an investment contract or debt instrument) attached to DOGE that would be subject to a governing law clause.

E.40 Competent Court

In case of disputes related to services provided by LCX, the competent court is: The Courts of Liechtenstein, with jurisdiction in accordance with Liechtenstein law and applicable EU regulations.

F. PART F - INFORMATION ABOUT THE CRYPTO-ASSETS

F.1 Crypto-Asset Type

Other Crypto-Asset

F.2 Crypto-Asset Functionality

Dogecoin (DOGE) is a decentralized digital currency primarily used for peer-to-peer payments and value transfer. Its key functionalities and uses include: (a) Medium of Exchange: DOGE can be sent between users globally to pay for goods, services, or simply to transfer value. (b) Micropayments: Because of its low fees and fast confirmation times, Dogecoin is well-suited for micro-transactions that would be impractical with higher-fee networks. (c) Payments and Merchandising: A growing number of merchants accept Dogecoin for purchases (ranging from web services to merchandise); notably, some high-profile companies have enabled DOGE payments for certain products. (d) Community Crowdfunding: The Dogecoin community has historically banded together to fund charitable causes or sponsorships (for instance, raising DOGE to sponsor a NASCAR driver and Olympic teams). While not a built-in protocol feature, this community utility is a hallmark of Dogecoin's functionality as a grassroots funding tool. Technically, DOGE does not require staking or any action beyond transacting and mining – holding DOGE doesn't give governance power, but anyone can run a node or mine (with appropriate hardware) to support the network.

Although DOGE is widely used for peer-to-peer payments and community funding, it does not constitute a utility token under Article 3(1)(11) MiCAR, as it does not grant access to any good or service provided by the offeror or issuer. Its use remains purely transactional and community-driven.

F.3 Planned Application of Functionalities

Dogecoin is already a fully operational crypto-asset with established use cases, as described above. There are no new or different functionalities planned for DOGE beyond its current role as a medium of exchange, except for incremental technical improvements to enhance efficiency, security, or scalability. The Dogecoin Foundation's roadmap ("trail map") and community discussions indicate a focus on improving what already exists – for instance, work on LibDogecoin (a development library) and GigaWallet (a simplified wallet solution) to make integration easier, as well as exploring staking mechanisms in future (community staking concept) but these are enhancements to the ecosystem rather than new fundamental uses of DOGE.

F.4 Type of white paper

OTHR

F.5 The type of submission

NEWT

F.6 Crypto-Asset Characteristics

Dogecoin is a decentralized, open-source blockchain-based token intended to function as a form of digital money. Key characteristics include:

Blockchain Protocol: Dogecoin runs on its own Dogecoin blockchain, which uses Proof-of-Work for consensus (detailed in Part H). It shares much of its code and design with Bitcoin/Litecoin, which means it leverages proven technology for security and transaction handling. The ledger is maintained by a network of nodes and miners without any central authority.

Unit and Divisibility: The smallest unit of Dogecoin is 1 "Dogecoin" (often just called 1 DOGE). DOGE is divisible into smaller units (down to 1e-8, like Bitcoin's satoshi), although in practice wallet software typically shows 2-4 decimal places for DOGE due to its low value per coin. This high divisibility means even as the price fluctuates, users can transact tiny fractions of a coin if needed.

Supply & Issuance: Dogecoin's total supply is uncapped. There were about ~100 billion DOGE mined in the first ~1.5 years (due to an initial fast issuance schedule), and since mid-2015, new DOGE are added at a fixed rate of 10,000 per block (approximately one block per minute). As of 2025, over 150

billion DOGE exist, and ~5.2 billion DOGE are added per year. This design yields a steadily increasing supply, which in effect creates a modest inflationary pressure. Unlike deflationary assets, Dogecoin's value per coin is not supported by scarcity but by continued demand outpacing this steady issuance.

Consensus & Security: Dogecoin uses a Proof-of-Work consensus mechanism with the Scrypt hash function. Mining rewards provide security and no single entity controls the network. There is no central governance token or voting mechanism; consensus changes happen via software upgrades adopted by the community.

Transaction Features: Transactions on the Dogecoin network are permissionless and pseudonymous. They typically confirm quickly (1 minute block target) and cost very low fees (often ~$0.001 or less per transaction). This makes DOGE practical for use cases like micro tipping and frequent transfers. Each transaction requires a small fee paid in DOGE, which disincentivizes spam and is awarded to miners.

F.7   Commercial name or trading name

Dogecoin

F.8   Website of the issuer

Not applicable

F.9   Starting date of offer to the public or admission to trading

2025-05-07

F.10   Publication date

2025-05-07

F.11   Any other services provided by the issuer

Not applicable

F.12   Language or languages of the white paper

English

F.13   Digital Token Identifier Code used to uniquely identify the crypto-asset or each of the several crypto assets to which the white paper relates, where available

820B7G1NL

F.14   Functionally Fungible Group Digital Token Identifier, where available

Not applicable

F.15   Voluntary data flag

true

F.16   Personal data flag

false

F.17   LEI eligibility

false

F.18   Home Member State

Liechtenstein

F.19   Host Member States

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden.

G. PART G - INFORMATION ON THE RIGHTS AND OBLIGATIONS ATTACHED TO THE CRYPTO-ASSETS

G.1 Purchaser Rights and Obligations

Purchasers or holders of Dogecoin (DOGE) do not acquire any contractual rights or legal claims against an issuer, because Dogecoin has no central issuer or counterparty. Owning DOGE simply grants one the ability to use the tokens within the Dogecoin network – essentially, the right to store DOGE in a wallet, and to transfer DOGE to any other address on the blockchain, subject to the network's consensus rules and transaction fees. This right is secured by the network's cryptography: only someone with knowledge of the private key for a Dogecoin address can authorize transfers from that address.

G.2 Exercise of Rights and Obligation

Since Dogecoin doesn't bestow complex rights, there is no special procedure needed to exercise them beyond using the token normally. The primary "right" – to transfer DOGE – is exercised by initiating a blockchain transaction. To do so, a holder uses their Dogecoin wallet software to create a transaction (specifying the recipient address and amount) and signs it with their private key. The network (miners) will then include that transaction in a block, and once confirmed, the DOGE is effectively moved to the new owner.

G.3 Conditions for Modifications of Rights and Obligations

Dogecoin's protocol and the "rights" of holders (which are basically to transact) are determined by the consensus rules of the network, and cannot be unilaterally changed by any single party. Any modifications to how Dogecoin works – for instance, changes to inflation rate, block size, or potential introduction of staking – would require a network-wide update of the software and broad agreement among the community (developers, miners, node operators). Typically, the process is: developers propose a change via code; the community discusses it openly; and if there is strong support, new software is released.

G.4 Future Public Offers

Not applicable

G.5 Issuer Retained Crypto-Assets

Not applicable

G.6 Utility Token Classification

No

G.7 Key Features of Goods/Services of Utility Tokens

Not applicable

G.8 Utility Tokens Redemption

Not applicable

G.9 Non-Trading Request

True

G.10 Crypto-Assets Purchase or Sale Modalities

Not applicable

G.11 Crypto-Assets Transfer Restrictions

Not applicable

G.12 Supply Adjustment Protocols

Dogecoin's supply is governed by its protocol rules which define how new coins are created. The primary mechanism is the block mining reward. Initially, Dogecoin had a randomized block reward (early in its life) and then a series of declines, but for many years now the protocol has set a fixed

block reward of 10,000 DOGE for each block mined (once per minute). This is the ongoing supply "adjustment" – it's actually a steady issuance rather than an active adjustment mechanism. There is no algorithm to reduce or increase the block reward based on conditions (aside from the initial schedule which has long since completed).

There is no maximum cap, meaning supply will continue to grow indefinitely. Dogecoin does not have a supply reduction or burn built in; transaction fees that users pay are not burned (they are given to miners). The supply can decrease marginally only if people lose access to their coins or voluntarily burn them (sending to an unusable address), but the protocol does not enforce or require any burns.

G.13   Supply Adjustment Mechanisms

There are no discretionary or dynamic supply adjustment mechanisms present in Dogecoin beyond the mining issuance described. The term could imply things like algorithmic changes triggered by events (e.g., halving events in Bitcoin, or governance-based adjustments), but Dogecoin's current mechanism is static. Once it reached the steady state of 10k per block, there is no further adjustment or halving schedule – it will always be 10k per block unless the community decides to change the code. This means Dogecoin's inflation rate in percentage terms declines over time as the base grows, but in absolute terms ~5B DOGE are added yearly perpetually. If by "mechanisms" we consider external influences:

Dogecoin's merge mining with Litecoin means that Dogecoin piggybacks on Litecoin's hashpower – but that affects security, not supply. Merged mining does not change the supply; Dogecoin blocks still produce new DOGE independent of Litecoin blocks. No entity can "mint" additional DOGE arbitrarily; only through mining rewards as per rules. There is also no mechanism to remove DOGE from circulation (no burn or lock by protocol). Dogecoin's economic model relies on the idea that a consistent small inflation encourages spending rather than hoarding (since holding DOGE yields no scarcity increase relative to supply).

G.14   Token Value Protection Schemes

False

G.15   Token Value Protection Schemes Description

Not Applicable

G.16   Compensation Schemes

False

G.17   Compensation Schemes Description

Not Applicable

G.18   Applicable Law

Not applicable – As previously noted,Dogecoin itself is a decentralized asset not issued under any single national legal framework, so no specific law governs the asset comprehensively. Dogecoin does not grant contractual rights enforceable in court (like a bond or share would), thus there is no contract to subject to a particular law.

G.19   Competent Court

Not applicable - As Dogecoin (DOGE) is a decentralized, open-source crypto-asset with no central issuer or governing entity, it does not fall under the jurisdiction of any specific legal framework.

In case of disputes related to services provided by LCX, the competent court is: The Courts of Liechtenstein, with jurisdiction in accordance with Liechtenstein law and applicable EU regulations.

H. PART H – INFORMATION ON THE UNDERLYING TECHNOLOGY

H.1 Distributed ledger technology

Dogecoin operates on a dedicated **distributed ledger (blockchain)** called the Dogecoin blockchain. This is a public, permissionless ledger where all transactions in DOGE are recorded in a chronological chain of blocks. Each block contains a batch of recent transactions, a reference (hash) to the previous block, and a proof-of-work solution. The Dogecoin blockchain is structurally similar to the Bitcoin blockchain, but with modifications such as different timing and hashing.

Decentralization: The Dogecoin ledger is maintained by a distributed network of nodes (computers running Dogecoin software across the world). There is no central server or authority; consensus on the state of the ledger is achieved through the Proof-of-Work mining process. Any participant can run a full node to verify all transactions and blocks, contributing to the network's decentralization and security.

Data Structure: Like most blockchains, Dogecoin's ledger is essentially a linked list of blocks (each identified by a cryptographic hash), forming an immutable history. Transactions use a UTXO model (Unspent Transaction Outputs) identical to Bitcoin's model: each transaction consumes one or more UTXOs and creates new UTXOs, thereby transferring value from inputs to outputs. This model ensures that coins aren't double-spent and allows easy verification of balances by scanning UTXOs.

Blockchain Parameters**:** Dogecoin's block time is targeted at 1 minute (meaning roughly one new block is added every minute). The block size and transaction throughput: Dogecoin's default block size limit is 1 MB (similar to Bitcoin's original limit), which given the 1 minute blocks, allows for about up to 10x the transactions per second of Bitcoin (theoretical TPS around 30-40, though actual use is usually far lower). The faster block time leads to quicker propagation and more frequent finality (though also a larger blockchain over time). The difficulty of mining adjusts every block to maintain the ~1 minute rate, using an algorithm that was initially Kimoto Gravity Well (adopted from a past update, ensuring rapid difficulty adjustment to hash rate changes).

Scrypt Algorithm**:** Dogecoin's ledger uses Scrypt-based Proof-of-Work, which means the block header's hash must satisfy a certain difficulty target using the Scrypt hash function. Scrypt is a memory-hard algorithm, which originally allowed Dogecoin to be mined effectively with GPUs (rather than specialized ASICs) in its early days. Over time, Scrypt ASICs were developed and now dominate, but the use of Scrypt differentiates Dogecoin from Bitcoin's SHA-256-based network and allows **merged mining with Litecoin**. In 2014, Dogecoin and Litecoin communities agreed on a merged mining approach: Litecoin miners can include Dogecoin's PoW in their process, so that the work done counts for both blockchains

Openness and Transparency: The Dogecoin blockchain is completely transparent. All transaction data (sender and receiver addresses, and amounts) are visible on the chain, though pseudonymous (addresses are strings not tied to real identities on-chain). Anyone can use a block explorer to view transactions or verify the total supply at any given time.

Fork History: Dogecoin's blockchain has run continuously since genesis (December 6, 2013). It has experienced only a few notable forks/upgrades (none contentious to the point of splitting into a different coin, except test forks on test networks). The integration of merged mining and some adjustments to parameters (like difficulty calculation) were achieved through updates and miner adoption.

Current Status**:** The Dogecoin network as of 2025 is robust, with thousands of nodes and a hash rate in the Petahash/sec range, which is significantly high due to merged mining integration with Litecoin's hashing network. This ensures that altering past blocks (tampering with ledger history) is

computationally infeasible, thus the ledger is effectively immutable.

Dogecoin Whitepaper: https://github.com/dogecoin/dogecoin/blob/master/README.md

Public block explorer: https://explorer.doged.io/

Dogecoin Main repository: https://github.com/dogecoin/dogecoin

Dogecoin Developer portal: https://dogecoin.com/#community

H.2 Protocols and Technical Standards

Dogecoin leverages established protocols and cryptographic standards, many of which it inherited from Bitcoin/Litecoin, ensuring interoperability with common crypto tooling. Key protocols and standards include:

Networking Protocol**:** Dogecoin nodes communicate using a peer-to-peer protocol derived from Bitcoin's P2P network protocol. This covers how messages (transactions, blocks, requests) are formatted, propagated, and relayed. It uses TCP and a gossip-like propagation. The network protocol ensures all nodes can find peers, disseminate new transactions, and stay in sync with the latest blocks. Dogecoin uses the same port (default 22556) and message structures as its Bitcoin/Litecoin ancestors, adjusted for Dogecoin specifics (e.g., magic numbers identifying Dogecoin messages).

Consensus Rules: The consensus rules (often collectively called the Dogecoin protocol) define what makes a block or transaction valid. For Dogecoin:

- Proof-of-Work: Blocks must have a hash with a number of leading zeros (in Scrypt) sufficient to meet the network difficulty target.

- Difficulty Adjustment: Dogecoin's difficulty retargets every block. Historically, Dogecoin adopted the Dark Gravity Wave v3 algorithm (similar to some altcoins) to adjust difficulty quickly and avoid wild swings, especially after merged mining started. This ensures consistent block times.

- Block Reward & Halving: Initially the block reward was randomized and halved over time. By block 600,000 (mid-2015), it became fixed at 10k DOGE. No further halving – a divergence from Bitcoin's standard.

- Max Block Size & Sigop Limits: Dogecoin currently has a 1 MB max block size (though due to lower usage, blocksize is rarely a limiting factor). It also has limits on signature operations per block to avoid computational blowup (like Bitcoin's limits).

- Transaction Scripts: Dogecoin uses Bitcoin's scripting system for transactions. It supports standard script opcodes (like OP_CHECKSIG, OP_HASH160 etc.), enabling features like multi-signature transactions and time-locks (via nLockTime and CLTV). It does not support more advanced scripting like Ethereum's solidity – just the basic set from Bitcoin circa 2014, plus any upgrades merged later (Dogecoin has added CHECKLOCKTIMEVERIFY for timelocks, for example).

- SegWit/Advanced Features: As of early 2025, Dogecoin has been exploring or implementing some upgrades originally from Bitcoin. Notably, Dogecoin developers have discussed implementing Segregated Witness (SegWit) to alleviate transaction malleability and improve capacity, and some improvements to fee calculation. If implemented, Dogecoin would then support SegWit addresses and follow those technical standards for signatures.

- Hash Functions: Dogecoin uses **Scrypt** for its PoW (which internally uses SHA-256 as part of the algorithm but in a memory-hard way). For general cryptographic hashing in protocol (like transaction IDs, block chaining), it uses **SHA-256** and **RIPEMD-160** as Bitcoin does (for example, addresses are made by hashing public keys with SHA-256 then RIPEMD-160, then encoding).

- Digital Signatures**:** Dogecoin uses **ECDSA (Elliptic Curve Digital Signature Algorithm)** over the **secp256k1** curve for transaction signatures, identical to Bitcoin's standard

- Address format: Dogecoin addresses currently start with letter "D" and are a Base58Check encoding of the RIPEMD160(pubkey) with Dogecoin's version prefix. It's analogous to Bitcoin's "1" addresses or Litecoin's "L" addresses, just different version byte. If Dogecoin adopts newer standards like SegWit, it might introduce bech32 addresses (with a prefix like "doge1..." if decided).

- BIP Standards**:** Dogecoin has historically adopted or is compatible with various Bitcoin Improvement Proposals. For example: BIP-32/44 for HD wallet derivation (so one can use a BIP-44 compatible wallet to derive Dogecoin addresses using coin type 3' for DOGE); BIP-39 for mnemonic seeds (the word lists for backup phrases are the same standard); BIP-21 for payment URIs (dogecoin: URI scheme).

H.3   Technology Used

The Dogecoin network employs a range of technologies to ensure secure and efficient operation:

Cryptographic Algorithms: Dogecoin relies on standard cryptography. It uses ECDSA with the secp256k1 curve for creating public/private key pairs and signing transactions. This is the same cryptographic primitive used by Bitcoin, known for its balance of security and performance. For hashing, Dogecoin uses SHA-256 (part of Scrypt internally, and double SHA-256 for aspects like block headers) and Scrypt as the core of its PoW. Scrypt involves memory-hard functions, meaning it requires significant memory to compute, which was intended to make mining more democratic in early days (reducing advantage of pure CPU brute force). Over time, specialized Scrypt mining hardware emerged, but the algorithm still ensures a large amount of memory is used in each hash attempt, differentiating it from SHA-256 mining.

Node Hardware: Running a Dogecoin full node is not very resource-intensive by modern standards. A typical Dogecoin Core node might require a few gigabytes of disk space (the Dogecoin blockchain is smaller than Bitcoin's; as of 2025, it's on the order of a few tens of GB), about 1-2 GB of RAM for comfortable operation (especially if the mempool is large), and a broadband internet connection. Many Dogecoin nodes run on personal computers or VPS servers. This relatively low barrier helps maintain decentralization by allowing hobbyists to run nodes.

Mining Hardware: In contrast, mining Dogecoin effectively today does require specialized hardware. Given the competition from merged mining with Litecoin, miners use Scrypt ASIC miners (Application-Specific Integrated Circuits) which are devices specifically built to perform Scrypt hashing extremely efficiently. These ASICs provide high hash power with comparatively lower electricity consumption than a CPU or GPU could. They usually mine Litecoin and Dogecoin concurrently (because any Scrypt hash that finds a valid LTC block can be used to see if it's a valid DOGE block at lower difficulty, etc.). These devices typically have high power usage (hundreds to thousands of watts) and are run in mining farms. Thus, while originally Dogecoin was mined with everyday computers, now it's predominantly mined with pro equipment, a common evolution for PoW coins.

Development Tech Stack: The Dogecoin Core software is written in C++ and utilizes the Boost libraries, OpenSSL for cryptographic routines, and other libraries like LevelDB for the blockchain data storage (key-value database for UTXO set). Dogecoin developers also use testing frameworks (Dogecoin has test suites, some inherited from Bitcoin's tests, covering regression tests for consensus rules).

Community Tech: Outside the core node, the community uses various tech tools - e.g., light wallets (like MultiDoge historically, or more commonly now multi-coin wallets that support DOGE), block

explorers (web applications that parse Dogecoin blockchain data for public viewing), and payment bots (on Reddit/Twitter facilitating tips).

Interoperability: Because Dogecoin shares a lot of technology with Bitcoin, it's interoperable with many multi-coin systems. For instance, hardware wallets (like Ledger or Trezor) that support Bitcoin/Litecoin often support Dogecoin using the same cryptographic operations; they just apply Dogecoin's address prefix and derivation path. This is possible due to Dogecoin adhering to standards like BIP44 coin type and BIP32 HD keys. Also, Dogecoin can be integrated into payment processors and crypto ATMs with minimal differences, since sending a Dogecoin transaction is very similar to sending a Bitcoin transaction from a software perspective.

In essence, the technology used by Dogecoin is a combination of time-tested blockchain components (cryptographic keys, PoW mining, P2P networking) and some community-specific optimizations (fast blocks, merged mining). By sticking closely to Bitcoin-derived technology, Dogecoin leverages a large body of knowledge and proven security

H.4   Consensus Mechanism

Dogecoin uses a Proof-of-Work (PoW) consensus mechanism, specifically a variant that is merge-mined with Litecoin. Here's how consensus is achieved in Dogecoin:

Mining Process: Dogecoin's PoW uses the Scrypt hashing function. Miners essentially perform many Scrypt hash computations with different nonces until a satisfactory hash is found (one that starts with a required number of zeros, meaning it's numerically small). The first miner to find such a solution broadcasts their block to the network.

Block Validation: When a miner's block solution is found, other nodes verify that the block is valid. This involves checking: (a) All transactions in the block are valid (proper signatures, no double-spends, correct inputs and outputs, etc.); (b) The block's timestamp is reasonable; (c) The block's hash meets the difficulty target; and (d) The block properly references the previous block (maintaining the chain). If the block passes all checks, nodes add it to their copy of the blockchain and the block becomes part of the official ledger.

Chain Selection (Longest Chain Rule): In PoW consensus, if multiple valid blocks are found around the same time (causing a temporary divergence or fork in the chain), the network follows the chain that has the most accumulated proof-of-work (commonly referred to as the "longest chain" or "heaviest chain"). In Dogecoin, this means the chain where the sum of difficulties is greatest (basically the one more miners have worked on). Over time, one chain outpaces others and becomes the single accepted chain. This mechanism ensures the network eventually reaches consensus on one history of transactions, even if momentarily there are disagreements.

Merged Mining with Litecoin: A unique aspect of Dogecoin's consensus is that it accepts AuxPoW (auxiliary proof of work) from Litecoin miners.From Dogecoin's perspective, it doesn't care if a block was found via pure Dogecoin mining or via Litecoin merged mining – as long as the block and AuxPoW proof are valid, the block is accepted. This consensus approach significantly increased Dogecoin's security from 2014 onward by aligning its mining incentives with Litecoin's.

Block Reward and Incentives: To incentivize miners to secure the network, Dogecoin provides a reward of 10,000 DOGE for each block mined. Additionally, the miner receives all transaction fees from the transactions included in that block. Transaction fees in Dogecoin are currently very low per transaction (e.g., 0.01 DOGE or similar recommended per kilobyte post-2021 update), so the block reward constitutes the vast majority of miner incentive.

Finality and Confirmation: Once a block is buried under several subsequent blocks, its transactions are considered final and irreversible for practical purposes, as an attacker would need to redo the proof-of-work of that block and all after it to change history, which is computationally prohibitive..

Security Considerations: The consensus mechanism's security comes from the economic principle that performing honest mining is far more profitable than trying to attack the network.

Dogecoin's consensus mechanism yields fast and reliable transaction confirmation at the expense of being Proof-of-Work (with associated energy costs). Transactions typically reach irreversibility faster

(because of 1-min blocks) compared to Bitcoin's 10-min blocks (though one should still wait multiple confirmations for large payments). The Federated nature (since it leverages Litecoin's network) is unique; however, Dogecoin's network can also stand on its own if needed – if Litecoin were to disappear, Dogecoin miners could still mine blocks (with possibly less hashpower but still functional). As of now, the synergy stands: Dogecoin's consensus piggybacks on Litecoin to mutual benefit (Litecoin miners get extra DOGE revenue, Dogecoin gets security).

In summary, Dogecoin's consensus is Proof-of-Work, secured by miners solving Scrypt hashes, with the longest chain rule determining the valid ledger. It is the same fundamental mechanism that secures Bitcoin, adapted to Dogecoin's parameters and augmented by merge mining. This mechanism has proven robust over Dogecoin's many years of operation, with no successful 51% attacks recorded on Dogecoin since the merge mining (earlier, when Dogecoin was small and separate, it might have been theoretically vulnerable, which was a motivator for merge mining implementation).

H.5   Incentive Mechanisms and Applicable Fees

The Dogecoin network's security and operation rely on economic incentives for participants, particularly miners, and a fee structure for transactions:

Block Rewards: As mentioned, miners currently receive 10,000 DOGE as a subsidy for each new block they mine. This block reward is the primary incentive mechanism that encourages miners to contribute hash power. The continuous issuance of DOGE provides an ongoing reward, unlike some networks that taper off mining rewards; Dogecoin's reward is constant, which long-term will cause inflation but ensures miners always have a fresh incentive to mine even in later years when, for example, Bitcoin miners will rely mostly on fees. At Dogecoin's market prices (subject to change), these 10k DOGE per minute represent a certain fiat value that miners evaluate against their cost of electricity and equipment. The expectation is miners will mine as long as it's profitable, thus keeping the network secure. If more miners join, difficulty rises, but reward stays same per block (though more miners means each gets blocks less often). If miners leave, difficulty falls, making it easier for remaining miners to get rewards, equilibrating.

Transaction Fees: Every Dogecoin transaction includes a transaction fee paid by the sender. Dogecoin's fee rate historically was very low (e.g., 1 DOGE per kilobyte in early days, later reduced to 0.01 DOGE per kb in an update to encourage more usage). The current effective fee to get a transaction mined is often around 0.01 DOGE (which at current prices is far less than a cent in USD – essentially negligible). These fees are collected by miners in addition to the block reward. While today the block reward dwarfs the fees (given DOGE's price and low fee structure, total fees in a block might be only a few DOGE or tens of DOGE, compared to 10,000 DOGE from subsidy), fees still play an important role in preventing spam. By requiring even a tiny fee, Dogecoin ensures that flooding the network with transactions has a cost, thereby discouraging malicious spamming since an attacker would have to burn real value for it. As Dogecoin's usage grows or if block space becomes scarce, market forces could increase the fee rate organically (users would voluntarily pay higher fees to prioritize their transactions if blocks get full). However, Dogecoin's community ethos often emphasizes keeping fees low to remain accessible for micro transactions. In any case, miners have the right to set which transactions to include, typically prioritizing those with higher fees if block space were limited.

No Direct Staking or Other Rewards: Dogecoin does not have staking rewards or masternodes or such; it is pure PoW. So the incentive mechanism is straightforward: mine blocks, get DOGE. There's no additional yield for just holding DOGE or running a full node (non-mining nodes do not get paid; they run voluntarily for the good of the network and perhaps for their own reliability in using the network).

Economic Alignment via Merged Mining: It's worth noting, the merged mining arrangement effectively adds incentive for Litecoin miners by giving them "free" DOGE when they mine LTC blocks. This increases the hashrate securing Dogecoin without needing to increase Dogecoin's own reward. It's a clever incentive alignment: Litecoin miners are happy to get extra revenue, Dogecoin benefits from miners who are primarily chasing LTC rewards as well. Miners of one network thus become stakeholders in the other, fostering mutual security.

Fee Policy and Future: The Dogecoin community recently (2021) updated the reference client's default fees to lower them by 100x (from 1 DOGE/kB to 0.01 DOGE/kB) to make Dogecoin more practical for everyday use, given the rise in DOGE price. This was done via a soft fork and network-wide adoption of new policy. The fee changes demonstrate the community's control: node operators and miners had to agree to relay and accept lower fee transactions. That succeeded because of general consensus. Now Dogecoin has one of the lowest fees among major cryptocurrencies. This fosters its use in micro-transactions and tipping, aligning with its niche. Miners accepted this because even with low fees, the block reward is the main income. If in the future block reward significance diminishes (say, decades from now when inflation is small relative to supply), there might be a need to adjust fees or introduce other incentives (like maybe some Dogecoin improvement proposal for partial burn or new fee structures) to ensure miners remain incentivized purely from fees. That's a long-term consideration; at present, the infinite block reward concept means miners will always have that baseline.

User Incentives: From a user perspective, the incentive to hold or use DOGE is extrinsic (the prospect of price appreciation, or the utility of being able to transact/tip with it). There is no protocol reward for users. However, one could consider community-level incentives like tipping culture: users are often encouraged by social reward (karma, recognition) to tip others in DOGE. This is not enforced by code, but part of Dogecoin's ecosystem dynamic.

Network Fees & Upkeep: Running a full node costs some resources, and volunteers do it primarily due to altruism or personal use. There's no protocol fee that goes to node operators aside from mining. So Dogecoin's model relies on the mining incentive to cover both block production and indirectly the propagation and validation tasks done by full nodes.

H.6   Use of Distributed Ledger Technology

True

H.7   DLT Functionality Description[2]

Dogecoin operates as a decentralized, open-source cryptocurrency utilizing a blockchain-based distributed ledger. It employs the Proof-of-Work (PoW) consensus mechanism, specifically the Scrypt algorithm, which allows for faster block generation and lower energy consumption compared to Bitcoin's SHA-256 algorithm. This design enables Dogecoin to process transactions more quickly and with lower fees, making it suitable for microtransactions and tipping. The network's decentralized nature ensures that all transactions are recorded transparently and are immutable once confirmed, maintaining the integrity and security of the ledger.

H.8   Audit

False

H.9   Audit Outcome[3]

As of now, there is no publicly available information indicating that Dogecoin's core protocol has undergone formal security audits by recognized third-party organizations. Given its origin as a meme-based cryptocurrency and its community-driven development approach, Dogecoin has not prioritized formal audits in the same manner as some other blockchain projects. However, the open-source nature of its codebase allows for continuous review and contributions from developers worldwide, which can help identify and address potential vulnerabilities over time. It's important to note that the absence of formal audits may pose challenges for regulatory compliance under frameworks like MiCA, which emphasizes security and transparency.

---

[2] **[19/4/2025]** Updated DLT Functionality Information in Sub-Part H.7

[3] **[19/4/2025]** Updated Audit Outcome Information in Sub-Part H.9

PART I – INFORMATION ON RISKS

I.1   Offer-Related Risks

The admission to trading of Dogecoin (DOGE) is subject to risks related to market volatility, regulatory developments, and trading conditions. While DOGE is actively traded on global exchanges and generally has high liquidity, its price can fluctuate significantly due to factors such as macroeconomic conditions, investor sentiment, technological advancements, and speculative trading activity.

Liquidity risks may arise from changing market conditions, regulatory actions, or exchange delistings, which could impact the ease of buying or selling DOGE at expected prices. Additionally, regulatory developments in different jurisdictions may introduce new compliance obligations, trading restrictions, or limitations on market access, potentially affecting the availability of DOGE for trading.

Broader financial and cryptocurrency market risks, such as systemic downturns, operational failures of key exchanges, or security breaches, could further impact trading stability. As the regulatory landscape evolves, there is a risk that new legal requirements or enforcement actions could affect DOGE's trading status, influencing investor access and market conditions.

I.2   Issuer-Related Risks

Dogecoin does not have a central issuer comparable to a company that could default or become insolvent, as would be the case with traditional securities or debt instruments. However, the broader Dogecoin ecosystem involves various entities, stakeholders, and infrastructure providers whose actions or inactions could introduce risks.

Regulatory and Legal Uncertainty: While Dogecoin itself is a decentralized blockchain, the regulatory treatment of exchanges, custodians, staking services, and decentralized applications (dApps) built on Dogecoin varies across jurisdictions. Changes in legal frameworks may impact the accessibility, trading, and use of Doge, potentially affecting liquidity and market stability.

Network Governance and Protocol Risks: Dogecoin's protocol upgrades and governance decisions are primarily influenced by core developers, the validator community, and the Dogecoin Foundation. While this model allows for rapid innovation and network improvements, governance decisions may be subject to disagreements, delays, or unexpected changes in network rules. In certain scenarios, network-wide upgrades could introduce unintended technical issues or lead to forks if consensus is not reached.

Validator and Staking Centralization Risks: Dogecoin relies on validators to secure the network and process transactions. If staking power becomes too concentrated among a small number of validators or staking service providers, it could introduce risks related to network control, governance influence, and censorship resistance.

Security and Technological Risks: Dogecoin's high-performance architecture and smart contract execution capabilities introduce technical complexity and security considerations. Vulnerabilities in smart contract code, validator software, or underlying cryptographic mechanisms could lead to exploits, financial losses, or network disruptions. Additionally, advancements in quantum computing or other emerging technologies could pose long-term risks to Dogecoin's cryptographic security model if not mitigated through future upgrades.

I.3   Crypto-Assets-Related Risks

Dogecoin's inherent characteristics pose several risks to holders:

Unlimited Supply & Inflation: Dogecoin's monetary policy is inflationary – about 5 billion new DOGE are created each year.Unlike Bitcoin which has a capped supply, Dogecoin will continue to increase in supply perpetually. Over time, if demand does not increase proportionally, this could exert downward pressure on price. Essentially, Dogecoin holders face dilution of their stake (in percentage terms) every year. While the inflation rate percentage decreases over time, the absolute number of coins added is constant. If interest in Dogecoin does not grow, this inflation could gradually erode value.

Lack of Intrinsic/Underlying Value: Dogecoin is not backed by any asset, nor does it represent a claim on cash flows or utility (aside from usage in transactions). Its value is entirely dependent on what others are willing to pay for it. This means Dogecoin's price is fueled by speculative sentiment (often humor or community enthusiasm). If that sentiment falters, nothing fundamental anchors DOGE's price. Unlike a stock (backed by company earnings) or a stablecoin (backed by reserves), DOGE could, in theory, drop to zero if people stopped believing in its meme or use-case.

Concentration of Holdings: Dogecoin's distribution is known to be quite concentrated. A small number of addresses control a large portion of the total DOGE supply. This poses a whale risk: a large holder deciding to sell could flood the market and crash the price. Or a whale could attempt to manipulate the market given their significant stake. Even if some large addresses are custodial accounts holding for many users (like an exchange wallet), the perception of high concentration can impact market confidence.

"Meme" Dependence and Volatility: Dogecoin's value has been historically linked to internet culture and celebrity mentions (such as Elon Musk's tweets). While this has led to spectacular rallies, it also introduces risk: the same forces that pump DOGE can dump it. Memetic popularity can be fickle. A joke can get old, or public interest can shift to a new trending asset (e.g., other meme coins). If Dogecoin loses the spotlight, its price could decline due to reduced demand. The heavy influence of social media sentiment means unpredictable swings—positive hype or negative news (even if unrelated to any technical or usage change) can dramatically move the market.

Absence of Utility Beyond Payments: Dogecoin's functionality is quite narrow compared to many newer crypto-assets that enable smart contracts, DeFi, etc. In a crypto ecosystem that values utility, Dogecoin's inability to support complex applications could limit future demand. Should user and developer attention shift strongly towards platforms that can do more (e.g., Ethereum or others), Dogecoin might be seen as less appealing. Right now, Dogecoin's niche is friendly, low-cost payments, but competition exists (even Bitcoin's Lightning Network, or other payment coins). There's a risk that Dogecoin's network effects (community) are its main moat; if community interest wanes or migrates, there's little else to retain value

I.4   Project Implementation-Related Risks

Development Risk: Dogecoin's protocol needs periodic updates (for security improvements, compatibility, or efficiency). The risk is that development might lag. Historically, Dogecoin development slowed after 2015 until revived in recent years.

Technological Relevance: If Dogecoin does not keep up with technological advances (for example, if it never implements scalability solutions or if it cannot interact with emerging crypto infrastructure like decentralized finance or layer-2 networks), it might become technologically obsolete in the eyes of some users. There's a risk that Dogecoin's usage could stagnate if it's viewed as outdated tech while newer chains offer faster or more feature-rich experiences.

Transition Risks: The Dogecoin community has floated ambitious ideas such as possibly moving to Proof-of-Stake ("community staking" model)to address environmental concerns. Implementing such a fundamental change is complex and risky. It could lead to unforeseen technical issues or even a chain split if consensus is not unanimous.

Adoption and Integration Risk: On the adoption side, Dogecoin needs to maintain or grow its usage as a payment or tipping system to stay relevant beyond speculation. There's risk that merchants or platforms that once accepted DOGE might drop support if demand is low or volatility is too high.

Community and Governance Risk: As a project primarily led by community sentiment, Dogecoin's direction can be somewhat unpredictable. There is a risk of community disputes or fragmentation if differing visions emerge (some might want to keep it strictly as PoW, others might push for PoS or adding features, etc.). Without formal governance, resolving such disputes could be messy. The project relies on informal consensus, which generally works but is slower and riskier if a critical decision needs to be made.

External Dependencies: Dogecoin's security is in part dependent on Litecoin's mining due to merge mining. This is an external factor.

I.5 Technology-Related Risks

The technology underlying Dogecoin – while proven – comes with certain risks akin to those of other blockchain networks:

Network Security and 51% Attack: Although Dogecoin's merge-mined security with Litecoin makes a 51% attack very unlikely under current conditions, it's a risk to acknowledge in theory. If a malicious actor somehow commanded a majority of the Scrypt hash power (for instance, exploiting a massive concentration of mining or a vulnerability in mining software), they could attempt to reorganize the blockchain, double-spend, or censor transactions. In practice, this would require overwhelming the combined Litecoin+Dogecoin miners – an extremely high bar – but if it were to happen, trust in the network could be severely undermined. For example, a short-lived 51% attack could allow an attacker to reverse some of their own transactions (double-spending DOGE). The economic and technical feasibility of such an attack is low, but not zero (it depends on mining decentralization; note that a few large pools currently control significant portions of hash rate – collusion or compromise of pools is a risk).

Cryptographic Vulnerabilities: Dogecoin's security relies on standard cryptographic assumptions: that ECDSA (secp256k1) is unbroken and that Scrypt (with underlying SHA-256) is secure against preimage attacks. If a breakthrough in cryptography occurred – for example, an effective quantum computer that can crack ECDSA signatures – then Dogecoin's accounts could be at risk (as could all similar cryptocurrencies). Specifically, addresses where the public key has been revealed (which happens once a transaction is made from that address) would be vulnerable to having their private key derived by a quantum adversary.This is a long-term risk (quantum computing is not yet at that stage, but it's on the horizon perhaps in a decade or more). The Dogecoin community would need to implement quantum-resistant algorithms in the future to mitigate this. If any cryptographic primitives used by Dogecoin (ECDSA, SHA-256, Scrypt) were found to have weaknesses, the network could be exploited unless promptly updated.

Software Bugs: Dogecoin Core software could have undiscovered bugs that might cause consensus failure or other issues. For instance, in the past Bitcoin encountered bugs like the inflation bug (2018) that could have been catastrophic if abused. Dogecoin's code is largely derived from Bitcoin/Litecoin, but with modifications; any bug in Bitcoin that was fixed might or might not have been ported over promptly. A severe bug in Dogecoin's implementation could lead to unexpected behavior – such as a fork in the chain, stuck blockchain, or even a vulnerability allowing extra DOGE to be minted outside of the normal rules. The risk is mitigated by Dogecoin using battle-tested code and having a community of developers and auditors, but it's never zero.

Node Centralization and Network Robustness: While Dogecoin is decentralized, the number of full nodes is smaller than Bitcoin's. If not enough nodes are spread out, there's some risk (small) of network disruption – e.g., if large swathes of nodes were taken offline (maybe by a targeted cyberattack or an internet outage), the network could become less accessible or partitioned. Partitioning risk: if the network were split (say, by an internet outage separating miners), that could lead to temporary forks and confusion until reconnected. This is an edge case and not unique to Dogecoin.

Third-Party Dependencies: Many users access Dogecoin through third-party software (exchanges, mobile wallets). A risk is if a popular Dogecoin wallet had a vulnerability, it could lead to theft or loss for many users, which, while not a flaw in Dogecoin's protocol, would affect user trust in the ecosystem's technology. For example, if an official (or widely used) Dogecoin wallet had a bug that allowed hacks, that's a tech risk in the ecosystem.

Merge Mining Complexity: Merge mining adds some complexity – Dogecoin's security partly depends on Litecoin's network health. If something weird happened in the merged mining process (like an incompatibility bug between LTC and DOGE mining software), it could conceivably cause Dogecoin blocks to not be produced as expected. So far, merge mining has been stable. But reliance on another network's miners means Dogecoin needs to ensure compatibility and good relations with that mining

community. If Litecoin changed its PoW algorithm or something, Dogecoin would have to adapt quickly or lose the merged mining benefit.

Scalability Limits: Dogecoin currently has 1MB blocks every minute, which is about 10x Bitcoin's transaction capacity by rate. In periods of peak activity (e.g., during viral tipping campaigns or speculative rushes), Dogecoin could conceivably hit throughput limits, causing a backlog and higher fees. While this isn't a "risk" of failure, it could hamper usability (slow transactions, higher fees) at crucial times, thereby harming its reputation as a fast, cheap coin. Dogecoin's roadmap would need to consider scaling solutions if usage significantly grows. Until then, the latent risk is moderate – it hasn't hit sustained max capacity historically, but spikes have occurred.

Energy Consumption and Mining Sustainability: The reliance on PoW means Dogecoin requires miners to expend energy. If energy prices rise dramatically or there are environmental crackdowns, miners might drop out, lowering hash power and possibly security (though difficulty also adjusts downward to compensate for fewer miners, making remaining miners more profitable, so it tends to balance). Still, if mining becomes economically unfavorable (perhaps due to a long-term price decline of DOGE or external factors), the network could see reduced security. However, Dogecoin's constant issuance might actually ensure miners always have incentive as long as DOGE has any significant price.

I.6   Mitigation Measures

Several measures are in place or being taken to mitigate the risks associated with Dogecoin:

Voluntary Regulatory Compliance: LCX's preparation of this MiCA-compliant white paper itself is a mitigation effort for regulatory and market risks. By providing transparency and aligning with regulatory standards ahead of requirement, the goal is to reduce regulatory risk and enhance investor confidence. This proactive disclosure means investors have a clearer understanding of DOGE and can make informed decisions, which should mitigate the risk of misunderstanding or being misled by hype. Moreover, LCX's compliance with KYC/AML in trading DOGE helps address illicit use risks, ensuring that DOGE trading on our platform is monitored and compliant, thereby reducing the chance of regulatory clampdown due to misuse.

Robust Consensus Mechanism & Security Practices: Dogecoin's merge-mined PoW consensus leverages Litecoin's large mining ecosystem, providing strong security. This design is a mitigation against low hash rate vulnerabilities; by sharing mining with Litecoin, Dogecoin minimized the risk of a 51% attack that was more present when it was a standalone low-hash network. The community continues to encourage decentralized mining pool usage to avoid centralization. Developers and researchers continuously observe the hash distribution, and if any centralization is noticed, social measures (like encouraging miners to switch pools) can be taken.

Codebase Maintenance and Updates: Dogecoin's developers actively maintain the code. In recent years, there have been upgrades focusing on performance and fee reduction. The Dogecoin Core client is continuously synced with essential security updates from Bitcoin Core (for instance, whenever Bitcoin Core fixes a vulnerability or network issue, Dogecoin devs evaluate and port relevant fixes to Dogecoin). This practice mitigates technology risk by ensuring Dogecoin isn't left behind on known issues. The introduction of LibDogecoin (a library for easy Doge integration) and GigaWallet (cloud solution for DOGE transactions) by the foundation will encourage adoption and technical robustness, making it easier for services to integrate Dogecoin safely rather than implementing from scratch.

Community and Foundation Initiatives: The Dogecoin Foundation, re-established in 2021, addresses project continuity risk. It has brought together experts and community leaders to set a roadmap and coordinate contributions.By having an entity (though unofficially governing) to drive key projects, Dogecoin's development is less likely to stagnate. Their collaboration with Vitalik Buterin on a possible Proof-of-Stake proposal is an example of forward-looking action to tackle environmental and consensus efficiency concerns. If realized, a move to PoS (while risky to implement as noted) could drastically cut energy consumption, addressing one major critique and risk (climate impact and potential mining decline). The foundation's efforts to include "influential friends" and more developers mitigate the key person risk – broadening the base of contributors so the project isn't reliant on one or two individuals.

Network Diversity and Resilience: In terms of node resilience, the Dogecoin community has encouraged running full nodes (it's relatively easy to run one on a PC). Many enthusiasts have set up Dogecoin nodes globally, which improves the network's decentralization. Also, miners often run nodes to feed their mining operations. Because Dogecoin piggybacks on Litecoin, many Litecoin full nodes also process Dogecoin blocks (if configured for merged mining). This overlapping infrastructure means Dogecoin benefits from Litecoin's robust node network as well, indirectly. Such redundancy helps ensure the ledger's availability and verification is widespread.

Collaboration with the Wider Crypto Ecosystem: Dogecoin is not isolationist; developers keep open communication with Bitcoin and Litecoin dev communities. This means if any critical threat arises (like a potential cryptographic issue or an attack vector), Dogecoin can quickly learn from others' mitigation strategies or coordinate responses. The crypto community at large has a history of coming together to solve urgent security issues (for example, the way multiple coins patched the OpenSSL Heartbleed bug in 2014 or the inflation bug in 2018). Dogecoin would be part of similar collective defenses if needed.

User Security Education: The Dogecoin community emphasizes best practices for users, often spreading information on how to secure wallets (e.g., use of hardware wallets, beware of scams, etc.). While this is informal, a knowledgeable community can mitigate the risk of user error and hacks. The prevalence of hardware wallet support (Dogecoin is supported by major hardware wallets) allows users to mitigate theft risk by storing DOGE offline securely.

J. PART J - INFORMATION ON THE SUSTAINABILITY INDICATORS IN RELATION TO ADVERSE IMPACT ON THE CLIMATE AND OTHER ENVIRONMENT-RELATED ADVERSE IMPACTS

Adverse impacts on climate and other environment-related adverse impacts.

J.1 Information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism

The DOGE token operates on the Dogecoin blockchain, which utilizes a Proof-of-Work (PoW) consensus mechanism. PoW systems require miners to operate specialized hardware continuously in order to solve complex mathematical problems and validate transactions. This process is inherently energy-intensive and is generally associated with higher electricity consumption and increased greenhouse gas emissions.

While Dogecoin shares its Scrypt-based PoW algorithm with Litecoin and benefits from merged mining, which enables shared resources between networks, the overall environmental impact remains substantial. It should be noted that Dogecoin's consensus model does not offer energy savings in absolute terms. Rather, it reflects a relatively more energy-intensive infrastructure when compared to modern Proof-of-Stake or alternative consensus protocols.

In accordance with MiCA regulations regarding climate and environmental disclosures, publicly available data suggests that during periods of heightened mining activity, Dogecoin's total estimated annual energy consumption has exceeded 6 terawatt-hours (TWh). This figure is largely driven by the widespread deployment of Scrypt ASIC (Application-Specific Integrated Circuit) miners across the network. The estimated carbon footprint of the network during similar periods has reached up to 3 million tonnes (3 Mt) of CO_2 emissions annually.

General information	
S.1 Name *Name reported in field A.1*	LCX
S.2 Relevant legal entity identifier	529900SN07Z6RTX8R418

Identifier referred to in field A.2	
S.3 Name of the crypto-asset Name of the crypto-asset, as reported in field D.2	Dogecoin
S.4 Consensus Mechanism The consensus mechanism, as reported in field H.4	Dogecoin operates on its own native blockchain using a Proof-of-Work (PoW) consensus mechanism based on the Scrypt hashing algorithm. It is merge-mined with Litecoin, meaning miners validate both blockchains simultaneously using shared computational work. The PoW mechanism ensures transaction validation and network integrity without relying on a central authority. This white paper concerns only the native Dogecoin blockchain, and not wrapped versions of DOGE on other networks such as Binance Smart Chain.
S.5 Incentive Mechanisms and Applicable Fees Incentive mechanisms to secure transactions and any fees applicable, as reported in field H.5	Dogecoin incentivizes network security through block rewards and transaction fees. Each mined block provides a reward of 10,000 DOGE, with miners also receiving all transaction fees included in the block. Transaction fees on Dogecoin are very low, typically around 0.01 DOGE per kilobyte, making it suitable for micro-payments. There is no staking or delegated validation. Merged mining with Litecoin contributes additional economic security without altering Dogecoin's consensus. Wrapped versions of DOGE may exist on other networks, but this white paper pertains exclusively to native Dogecoin on the Dogecoin blockchain.
S.6 Beginning of the period to which the disclosure relates	2024-03-06
S.7 End of the period to which the disclosure relates	2025-03-06
Mandatory key indicator on energy consumption	
S.8 Energy consumption Total amount of energy used for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions, expressed per calendar year	8616142832.18069 kWh per year
Sources and methodologies	

S.9 Energy consumption sources and Methodologies Sources and methodologies used in relation to the information reported in field S.8	For the calculation of energy consumptions, the so called "bottom-up" approach is being used. The nodes are considered to be the central factor for the energy consumption of the network. These assumptions are made on the basis of empirical findings through the use of public information sites, open-source crawlers and crawlers developed in-house. The main determinants for estimating the hardware used within the network are the requirements for operating the client software. The energy consumption of the hardware devices was measured in certified test laboratories. When calculating the energy consumption, we used - if available - the Functionally Fungible Group Digital Token Identifier (FFG DTI) to determine all implementations of the asset of question in scope and we update the mappings regulary, based on data of the Digital Token Identifier Foundation.

J.2 Supplementary information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism

Supplementary key indicators on energy and GHG emissions	
S.10 Renewable energy consumption Share of energy used generated from renewable sources, expressed as a percentage of the total amount of energy used per calendar year, for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions.	15.116111602 %
S.11 Energy intensity Average amount of energy used per validated transaction	0.38984 kWh
S.12 Scope 1 DLT GHG emissions – Controlled Scope 1 GHG emissions per calendar year for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions	0.00 tCO2e per year
S.13 Scope 2 DLT GHG emissions – Purchased Scope 2 GHG emissions, expressed in tCO2e per calendar year for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions	1873.14310 tCO2e/a
S.14 GHG intensity Average GHG emissions (scope 1 and scope 2) per validated transaction	0.00000 kgCO2e per transaction

Sources and methodologies	
S.15 Key energy sources and methodologies Sources and methodologies used in relation to the information reported in fields S.10 and S.11	To determine the proportion of renewable energy usage, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from the European Environment Agency (EEA) and thus determined.
S.16 Key GHG sources and methodologies Sources and methodologies used in relation to the information reported in fields S.12, S.13 and S.14	To determine the GHG Emissions, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from the European Environment Agency (EEA) and thus determined.