MiCA White Paper

Toncoin (TON)

Version 1.0
June 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 UNION. THE PERSON SEEKING ADMISSION TO TRADING IS SOLELY RESPONSIBLE FOR THE CONTENT OF THIS CRYPTO-ASSET WHITE PAPER ACCORDING TO THE EUROPEAN UNION'S MARKETS IN CRYPTO-ASSET REGULATION (MICA).

LCX is voluntarily filing a **MiCA-compliant whitepaper for TON (Toncoin)**, even though Toncoin is classified as "Other Crypto-Assets" under the Markets in Crypto-Assets Regulation (MiCA). Unlike Asset-Referenced Tokens (ARTs), Electronic Money Tokens (EMTs), or Utility Tokens, Toncoin does not legally require a MiCA whitepaper. However, MiCA allows service providers to publish a whitepaper voluntarily to enhance transparency, regulatory clarity, and investor confidence. As an innovative, scalable blockchain network originally developed by Telegram and now maintained by an open-source community, The Open Network (TON) is playing a growing role in the Web3 ecosystem. TON enables fast, low-cost transactions, decentralized applications (dApps), and novel services (such as decentralized storage and domain name system) aimed at mass adoption. Toncoin's Proof-of-Stake consensus mechanism and multi-chain architecture allow high throughput and quick finality, making it an essential infrastructure for payments, DeFi, NFTs, and other blockchain-based services. This whitepaper aims to provide a comprehensive regulatory disclosure, ensuring market participants have clear insights into Toncoin's functionality, risks, and its role within the MiCA framework.

This document provides essential information about TON's characteristics, risks, and the framework under which LCX facilitates TON-related services in compliance with MiCA's regulatory standards.

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:

This white paper is under **copyright** of LCX AG Liechtenstein and may not be used, copied, or published by any third party without explicit written permission from LCX AG.

00 TABLE OF CONTENT

01 DATE OF NOTIFICATION

2025-06-04

COMPLIANCE STATEMENTS

02 This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union. 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

Toncoin (ticker: TON) is the native cryptocurrency of The Open Network (TON), a decentralized Layer-1 blockchain platform. TON was initially developed by Telegram in 2018–2020 and subsequently open-sourced and adopted by the community after Telegram ceased involvement. The TON blockchain is designed for high throughput and scalability, utilizing a novel multi-blockchain architecture (with a master chain and up to 2^32 workchains, each divisible into shardchains) to process transactions in parallel. Toncoin serves as the fuel of the network, used to pay transaction fees, stake in the network's consensus, and utilize on-chain services. TON's consensus mechanism is Proof-of-Stake (PoS) with Byzantine Fault Tolerance, enabling fast block times (~5 seconds) and finality in under 6 seconds. This allows TON to support a high volume of transactions suitable for applications like payments, DeFi, NFTs, and decentralized social networks.

09 Not applicable

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

Toncoin (TON) is a decentralized, open-market utility token, and as such, there is no centralized entity conducting an offer to the public. TON foundation does not issue or control the supply of TON but contributes to the development of the TON ecosystem.

This whitepaper is prepared in compliance with MiCA regulations to provide transparency regarding TON's listing and trading. Since TON 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 TON on its regulated trading platform, ensuring compliance with MiCA regulations and providing a secure and transparent marketplace for TON 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

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

True

B.2 Name

Toncoin

B.3 Legal Form

Not applicable

B.4 Registered Address

Not applicable

B.5 Head Office

Not applicable

B.6 Registration Date

Not applicable

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

Not applicable

B.11 Business Activity

Not applicable

B.12 Parent Company Business Activity

Not applicable

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 voluntarily preparing this MiCA-compliant whitepaper for Toncoin (TON) to enhance transparency, regulatory clarity, and investor confidence. While Toncoin does not require a MiCA whitepaper due to its classification as "Other Crypto-Assets", LCX is providing this document to support its role as a Crypto-Asset Service Provider (CASP) and ensure compliance with MiCA regulations in facilitating TON trading on its platform.

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 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

The Open Network

D.2 Crypto-Assets Name

Toncoin

D.3 Abbreviation

TON

D.4 Crypto-Asset Project Description

The Open Network (TON) is a decentralized blockchain project originally conceived by the founders of Telegram Messenger (the Durov brothers). TON's design goal is to achieve mass-scale blockchain adoption by combining high transaction throughput, low fees, and user-friendly features. The project launched its mainnet in 2021 through community efforts after Telegram discontinued its involvement due to regulatory constraints.TON introduces a multi-chain architecture: it consists of a masterchain that coordinates the network and multiple workchains that can operate in parallel, each of which can further shard into subnetworks. This allows TON to scale dynamically with demand, theoretically supporting millions of transactions per second as more chains/shards are added

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

Toncoin is an open-source blockchain with no central issuer. It is maintained by a decentralized network of developers, validators, node operators, and users worldwide.The TON Foundation and other independent contributors drive its development.

Full Name	Business Address	Function
Dr. Nikolai Durov	*Not applicable*	*Co-founder & Original Protocol Architect*
Ton Foundation	*Global*	*Development & Ecosystem Support*
Ton Core Developers	*Global*	*Software Development & Maintenance*
Ton Validators	*Global*	*Transaction Validation & Security (PoS)*
Ton Node Operators	*Global*	*Network Verification & Governance*

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 voluntarily filing a MiCA-compliant whitepaper for Toncoin (TON)to enhance transparency, regulatory clarity, and investor confidence. While TON is classified as “Other Crypto-Assets” under MiCA and does not require a whitepaper, this initiative supports compliance readiness and aligns with MiCA’s high disclosure standards. By doing so, LCX strengthens its position as a regulated exchange, ensuring a trustworthy and transparent trading environment for Toncoin within the EU’s evolving regulatory framework. Additionally, this filing facilitates market access and institutional adoption by removing uncertainty for institutional investors and regulated entities seeking to engage with Toncoin in a compliant manner. It further supports the broader market adoption and integration of Toncoin into the regulated financial ecosystem, reinforcing LCX’s role in shaping compliant and transparent crypto markets.

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

As of March 2025, approximately 2.50 billion TON (Toncoin) are in circulation, out of a current total supply of about 5.05 billion TON. Toncoin’s supply model is mostly fixed with slight inflation – the initial supply was 5.0 billion TON, and new TON are minted at an annual rate of ~0.6% to reward validators.There is no hard cap on the supply, but the low inflation means the supply grows slowly over time. A significant portion of TON’s supply is currently locked or frozen due to community-driven decisions: about 1.081 billion TON (from inactive mining accounts) are frozen until 2026, and roughly 1.317 billion TON are locked in the TON Believers Fund smart contract until 2025–2028 (with a linear vesting starting October 2025)

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

TON is widely traded on numerous cryptocurrency exchanges globally (both regulated and unregulated). As a decentralized asset, TON is not confined to any single trading venue; it can be accessed by retail and institutional investors worldwide through dozens of exchanges. LCX Exchange now supports TON trading (pair TON/EUR). To access TON 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 – TON as a crypto-asset itself is not governed by any specific national law or jurisdiction. Toncoinis a decentralized network that operates on a global scale, and TON tokens exist on the blockchain independent of legal jurisdiction. There is no contractual framework (like an investment contract or debt instrument) attached to TON 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

Toncoin (TON) is the native crypto-asset powering the TON blockchain, serving multiple integrated functions essential to the ecosystem's operation and sustainability. It is primarily used to pay for transaction fees and the execution of smart contracts on the network, including services such as token transfers, contract deployment, and the use of decentralized services like TON DNS. These fees help prevent network spam and ensure validators are compensated for their computational efforts. Toncoin also plays a central role in securing the network through its staking mechanism. Validators are required to lock a significant amount of Toncoin—currently a minimum of 300,000 TON—to participate in the network's Proof-of-Stake consensus, which secures the blockchain and validates transactions. These validators, or those delegating their tokens to them, are incentivized through rewards paid in Toncoin, while dishonest or malicious behavior is penalized through slashing.

F.3 Planned Application of Functionalities

TON is already fully functional and integrated into the The open network's operations. There are no new planned uses of TON outside its current role, as its role is fundamental and ongoing. It will continue to be used as: the gas token for all transactions on The Open Network; the staking asset for validators (and delegation by token holders) to keep the network secure; and the base asset for the ecosystem's DeFi and commerce.

F.4 Type of white paper

OTHR

F.5 The type of submission

NEWT

F.6 Crypto-Asset Characteristics

Toncoin is a fungible digital token native to the TON blockchain, operating as a permissionless and bearer-based crypto-asset, meaning any user with access to a private key can hold or transfer TON without needing prior approval or centralized oversight. As the native platform coin, Toncoin is essential for interacting with the TON network's core functionalities, making it analogous to how ETH functions within Ethereum.

It underpins smart contract execution, transaction fees, and decentralized services across the TON ecosystem. The blockchain leverages advanced technologies, including a sharded multi-chain architecture and the TON Virtual Machine, which enables fast finality of transactions—often within seconds—and ensures scalability.

Unlike Proof-of-Work-based assets, Toncoin is not mined; it enters circulation through energy-efficient Proof-of-Stake mechanisms, with new tokens distributed as rewards to validators and nominators. Importantly, Toncoin does not confer any rights to underlying assets or entities and carries no intrinsic yield outside of staking rewards, positioning its value solely on market demand and utility.

F.7 Commercial name or trading name

Toncoin

F.8 Website of the issuer

Not applicable

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

2025-07-08

F.10 Publication date

2025-07-08

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

QBZLT5MT1

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 TON do not acquire any specific contractual rights or legal claims against an issuer or anyone else by holding the token. TON is a decentralized network token, not a share or debt instrument; therefore, owning TON grants no governance rights in a legal entity, no entitlement to dividends, profits, or any form of interest, and no claim on any underlying assets or collateral.

G.2 Exercise of Rights and Obligation

Because holding TON does not bestow contractual rights, there is no traditional “exercise” of rights as one might have with a security or utility token tied to services. The rights that do exist (use of the network) are exercised simply by using the token: e.g., to exercise the “right” to transfer TON, the holder creates a transaction and signs it with their private key; to exercise the “right” to stake, the holder delegates their TON to a validator via a staking transaction. These actions are carried out on-chain and are validated by the decentralized network.

G.3 Conditions for Modifications of Rights and Obligations

Since there are no formal contractual rights attached to TON, modifications in the “rights and obligations” sense mostly pertain to changes in the protocol rules of the TON network. Any changes to how TON works (for example, changes to staking yield, fee structure, or adding on-chain governance features in the future) would require a network upgrade. TON’s upgrade process is decentralized: core developers may propose changes via software updates, but these changes only take effect if a sufficient portion of the community (especially validators) adopts the new software version.

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

Not applicable- Toncoin’s supply is governed by a fixed protocol (inflation rate ~0.6% and fee burn) but there is no discretionary mechanism that adjusts supply based on external metrics or targets (like no algorithmic peg, no central bank-like policy).The supply increases at a known, coded rate (block rewards) and decreases via burns. This is not considered a “supply adjustment mechanism” in the

regulatory sense, which refers to mechanisms for stablecoins or similar that actively manage supply to maintain value.

G.13 Supply Adjustment Mechanisms

Toncoin (TON) employs a multifaceted supply adjustment strategy to ensure economic stability within The Open Network (TON). One key component is its **inflationary rewards** mechanism, where new tokens are issued annually at a modest rate of approximately 0.6% to incentivize validators participating in the network's Proof-of-Stake (PoS) consensus. To counterbalance this controlled inflation, TON integrates a **transaction fee burning** process, whereby a portion of collected network fees is permanently removed from circulation, introducing a deflationary pressure that enhances token scarcity. Additionally, the community has initiated **token freezing measures**, notably locking up nearly 25% of the total supply in a smart contract for five years. This strategic move aims to reduce circulating supply and improve predictability and decentralization within the ecosystem. Collectively, these mechanisms—moderate inflation, deflationary fee burns, and long-term token locks—create a sustainable and balanced tokenomics model for Toncoin.

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, Toncoin (TON) is not governed by any specific national contract or securities law as an instrument. The rights of TON holders are defined by code (TON protocol) and not by a contract enforceable in court.

G.19 Competent Court

Not applicable - As Toncoin (TON) 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

The Open Network uses its own proprietary distributed ledger technology, commonly referred to as the TON blockchain

It is a decentralized, public ledger maintained by a network of validator nodes without any central authority. TON's ledger structure is unique in that it is a scalable multi-blockchain system. There is one Masterchain which contains the global configuration and summary of all other chains, and up to 2^32 Workchains (of which one main workchain is currently in use for general transactions) that can each have different rules or uses.

Each workchain can be split into up to 2^60 Shardchains that handle subsets of accounts/transactions. This architecture allows the ledger to dynamically shard and merge chains to accommodate load, thereby avoiding performance bottlenecks.

Data Structure: The TON ledger consists of a sequence of blocks in each chain (Masterchain blocks and Shardchain blocks). Blocks contain transactions and state updates (account balances, smart contract data). Blocks are connected by hashes (like in typical blockchains), forming a chain. The Masterchain also references the latest shard blocks, serving as a synchronization mechanism across shards.

Decentralization: TON's validators are geographically distributed (no single coordinator). Each validator maintains a copy of the relevant portions of the state. Permissionless entry: anyone who stakes sufficient TON and runs the required software/hardware can become a validator. Additionally, anyone can run a full node to observe and verify the blockchain, or a light node for basic functionalities. There is no central server or trusted party required to verify transactions – consensus is achieved collectively.

Ledger Features: The TON blockchain ledger is designed for high throughput and low latency. Blocks are produced very quickly (the target is one block every ~5 seconds per shard, Masterchain ~every 5 seconds as well).Because of the sharding, multiple blocks can be produced in parallel across shards, yielding effectively a high transaction throughput.

Comparison to other DLTs: TON's DLT is somewhat similar in concept to Ethereum 2.0's planned sharding, but TON already implements dynamic sharding and has an integrated design from the start. It uses Proof-of-Stake rather than Proof-of-Work, meaning consensus is by validators with stake – drastically reducing energy use. TON's ledger design allows it to avoid a single chain's throughput limit; block generation speed is largely independent of total network transaction volume due to parallelism.

TON Whitepaper: https://ton.org/whitepaper.pdf

Public block explorer: https://tonscan.org/

TON Main repository: https://github.com/ton-blockchain

TON Developer portal: https://ton.org/dev

H.2 Protocols and Technical Standards

TON operates on a custom Layer-1 blockchain protocol with several notable technical standards integral to its function:

Consensus Protocol (Catchain BFT): TON's consensus is a variant of Byzantine Fault Tolerant Proof-of-Stake. Specifically, it uses the Catchain consensus protocol, which is a refined BFT consensus that works in conjunction with the network's block scheduling. Validators are pseudo-randomly assigned to produce blocks in a round-robin fashion per shard (using a schedule defined by a seed in the Masterchain). After a validator proposes a block, validators vote on it. TON's consensus can be seen as akin to a Practical BFT algorithm: a block is finalized when a supermajority (≥2/3 of the stake) sign off. The term "Catchain" refers to a DAG of messages validators exchange to reach consensus. Tower BFT (used by Solana) is conceptually comparable; TON's Catchain was developed independently in Telegram's whitepaper.

Proof-of-Stake & Validator Selection: The protocol defines how validators are selected for each validation cycle (or "validation rounds" in TON, typically a few hours long). Validators must lock a stake in a special smart contract on the Masterchain (the Election contract) to be chosen.

Block Production & Finality: Blocks in TON shards are produced with a short interval. Multiple validators can propose blocks for a given sequence number if a proposer fails. Finality is reached quickly because once >2/3 signatures are collected on a block certificate, that block is final and can be referenced in the Masterchain. TON aims for fast finality (a few seconds) by pipelining block

confirmation – akin to Solana, but with immediate finality given enough signatures (no long probabilistic wait like in Nakamoto consensus).

Proof-of-History / Verifiable Delay (Timing): TON doesn't use Solana's Proof-of-History, but it does incorporate a precise time synchronization in consensus via validators' agreement on timing (perhaps using the Catchain protocol). Each block has a timestamp and validators won't accept blocks too far off. There is also use of a Verifiable Delay Function in some contexts (perhaps for random selection). However, TON's design relies more on Instant Hypercube Routing and communication efficiency than on a PoH.

Message Routing Protocol (Hypercube): The TON protocol includes a standard for how messages (transactions or cross-shard communications) are routed. The Hypercube routing protocol ensures that a message from any shard can reach any other shard within a small number of steps (logarithmic in number of shards). This uses a mix of validators passing messages and the Masterchain for final confirmation if needed. The design is such that even as shards increase, communication overhead grows slowly, making TON scalable. This is a technical standard within TON for inter-shard message format and handling.

Transaction Processing (Parallelism and Actor model): TON smart contracts use an asynchronous actor model (like Ethereum's, but asynchronous like in Polkadot or ICP). A technical standard here is that a contract can call another contract by sending an internal message; processing is event-driven. TON transactions must specify the accounts they will read/write or have logic to ensure deterministic execution across shards.

Cryptographic Standards: TON employs widely trusted cryptographic algorithms. For digital signatures, it uses Ed25519 (EdDSA over Curve25519) for authenticating validator signatures and user transactions.Hashing uses SHA-256 extensively (for linking blocks, computing state hashes, etc.). Additionally, as per TON documentation, SHA-512 and Blake2b are supported in the TVM for smart contracts.These are industry-standard algorithms ensuring security and compatibility with other systems.

Networking Standards: TON's network layer uses custom protocols (ADNL, overlay networks) on top of common transport protocols. For instance, it leverages UDP for validator communications for efficiency (similar to Solana's Turbine using UDP), supplemented by Forward Error Correction codes to handle packet loss.There's also a TON Network Protocol for discovery (DHT) and overlay routing. Those are specific to TON but documented for developers to implement clients.

Smart Contract Standards: Within the TON smart contract ecosystem, certain standard contracts define fungible tokens (called Jettons). The Jetton standard (equivalent to ERC-20) is a set of interface conventions: a Jetton typically consists of a master contract and individual wallet contracts for each holder, with standardized functions for transferring tokens and querying balances.Likewise, NFT standard (TIP-4) defines how non-fungible tokens and collections are structured (each NFT is a separate contract, with a collection contract enumerating them).These standards are community-approved and ensure interoperability of tokens and NFTs on TON.

Formal Verification and TVM improvements: The TON protocol from the original whitepaper included an ambition for formal smart contract verification. The existence of any formal verification standards (like a language TLA+ for contracts) isn't fully clear in community usage, but FunC (the high-level contract language) and TVM are designed with formal semantics in mind, aiding possible verification.

H.3 Technology Used

The TON network leverages a variety of established and innovative technologies:

Cryptography: TON relies on modern cryptographic algorithms for security. It uses Ed25519 for digital signatures – each TON wallet address corresponds to an Ed25519 public key, and all transactions are signed with the corresponding private key.This is a fast and secure signature scheme also used by other blockchains like Stellar and Cardano. TON also uses cryptographic hash functions (SHA-256, SHA-512, Blake2b) within the protocol and the TVM for generating hashes (e.g., computing account

state, addresses, or for the verifiable delay function.These are well-vetted algorithms providing collision-resistant hashing. The use of strong, widely-used cryptography means TON's security is based on standard assumptions (elliptic curve discrete log problem for Ed25519, etc.).

High-Performance Computing: Validators typically employ high-performance hardware – e.g., multi-core CPUs, ample RAM, and fast SSD storage.TON's software is written in optimized languages (a lot of the core is in C++), and it can utilize multithreading. Notably, like Solana, TON's implementation can benefit from GPU acceleration for certain tasks (though Solana explicitly offloads Ed25519 verifications to GPU, TON's current implementation may not yet, but could in future). The heavy use of parallelism in block processing suggests validators need strong I/O and CPU. Many validators run on data-center grade machines (some reports indicate validators use >128 GB RAM and NVMe drives to handle state). The technology of memory-mapped files is used for storing the state database on disk to allow efficient access to account states (similar to Solana's approach)

Networking: The network communication uses a custom stack (ADNL) that typically runs over UDP for efficiency. UDP allows sending data with minimal overhead, which is crucial for the high-throughput gossip of blocks and messages. TON's developers implemented their own reliability layer on top of UDP: it uses Forward Error Correction (FEC) via Reed-Solomon erasure codes to recover from packet loss without needing traditional TCP retransmits.This is similar to Solana's Turbine protocol. By using FEC and custom logic, TON can propagate blocks even if some packets drop, which is important in large networks. The use of ADNL (Abstract Datagram Network Layer) means nodes communicate via encrypted channels identified by permanent node IDs (public keys). Also, overlay networks can be formed (like a overlay for validators, another for DHT). Underneath, TON's DHT (a Kademlia-like distributed hash table) runs to let nodes find each other's IP addresses by node ID. This technological choice allows TON to be highly decentralized with self-organizing peer discovery.

Software Implementation: TON's core software (the validator/node software) is implemented in C++ for performance (the original Telegram implementation was in C++). There are newer implementations as well (for example, one in Rust by the community) which adhere to the TON specifications. The smart contract development uses FunC, a custom high-level language compiled to TVM bytecode, and also experimental support for C++ and perhaps Solidity (adapted) exists. These languages and compilers are part of TON's technology stack enabling developers to program the blockchain.

H.4 Consensus Mechanism

Proof-of-Stake with BFT Consensus: TON's consensus mechanism is a Byzantine Fault Tolerant Proof-of-Stake algorithm. Validators holding TON stake reach consensus on new blocks via a voting protocol that tolerates up to 1/3 of participants being malicious without compromising the ledger's integrity

Validator Selection: In TON, an election contract on the Masterchain selects a validator set for a given validation period (e.g., a few hours or days). To join, a node must lock a sufficient TON stake. At the start of a period, the Masterchain records the list of validators and their weights (stake). This set is fixed during that period.

Block Proposal: TON divides time into slots. A leader selection schedule is pseudo-deterministically computed (using a random seed from the Masterchain, often based on last block hash or a collective random) which assigns a particular validator as the primary proposer for each slot in each shard. If that validator is down or misses their slot, others can step in according to a fallback order. This deterministic leader rotation ensures each validator gets chances proportional to stake.

Voting (Validation of Blocks): When a block is proposed, all validators of that shard verify the block (check all transactions, ensure it follows protocol rules). If it's valid, they sign a confirmation (vote) for it. TON's Catchain BFT algorithm has validators exchange vote messages; essentially, a block is committed once a supermajority (≥ 2/3 of stake weight) has signed it. These signatures are collected into a block certificate. The block certificate (a list of validator signatures) might be published in the Masterchain or in subsequent shard blocks, finalizing that block.

Locking / Finality Gadget: TON's BFT consensus likely employs a mechanism of "sequential voting" where validators build on the latest block they consider final and include references to their last finalized block (similar to Casper FFG or Tendermint style). The idea is once a block has 2/3 votes, it becomes a new root of the chain (finalized) and cannot be reverted unless >1/3 of validators are malicious. This gives near-instant finality (within one round of communication). Practically, TON finality is achieved within a couple of block times (a few seconds).

Fishermen & Slashing: TON has a concept of fishermen – any validator (or even a non-validator that placed a small deposit) can play the role of monitoring the network for invalid blocks. If a malicious validator somehow injects an invalid block that nonetheless gets signed by others (very unlikely under normal BFT, but if it happened or in partitions), a fisherman can submit a challenge proof to the Masterchain. Upon confirmation of the fraud, the offending validator's stake is slashed (part of their stake is destroyed or given to the fisherman and remaining honest validators).This creates a deterrent against collusion or publishing invalid blocks.

Slashing Conditions: Validators can be slashed for double-signing conflicting blocks or for signing an invalid state transition. The Masterchain serves as the coordination point for slashing events (e.g., it can included a special transaction that slashes a validator's stake based on proof).

Fault Tolerance: The BFT nature means the network can function correctly as long as < 1/3 of the validating power is dishonest. If >1/3 is malicious, consensus can be disrupted (network could stall or in worst case finalize conflicting blocks, but that's catastrophic and would undermine the system). TON's economic incentives (slashing and loss of rewards) are designed to keep that from happening.

Epoch Changes: At each validator cycle (epoch), if needed, the set of validators updates (some leave, new ones join based on staking in the election contract). This provides decentralization over time as participants can rotate.

Masterchain's Role: The Masterchain is validated by the same validator set and has its own blocks which finalize shard block inclusion. The Masterchain sequences the network state (like "the beacon chain"). Because all validators validate Masterchain, those blocks contain attestations or confirmations about shards (like a summary of shard block hashes). This architecture ensures cross-shard consistency and is crucial to finalize shards state globally.

H.5 Incentive Mechanisms and Applicable Fees

TON's economic design incentivizes validators to secure the network while keeping the cost for users low:

Block Rewards: Validators receive block rewards in Toncoin for producing and validating blocks. The protocol mints new TON at a fixed rate: each new block in the Masterchain and each shard yields a reward. Specifically, currently the masterchain adds 1.7 TON per block, and each shardchain adds 1.0 TON per block as base rewards.These accumulated new tokens are distributed to validators at the end of each validation round (epoch) proportionally to their stake and participation. Because blocks are frequent, these block rewards sum up to roughly a 0.6% annual increase in TON supply. This inflationary reward provides continuous incentive for validators to operate and for token holders to stake (directly or via delegation) so as not to have their holdings diluted.

Transaction Fees: Every transaction on TON includes a fee paid in Toncoin. The fee structure is multi-part:

Gas/Computation Fee: for smart contract execution steps consumed.

Storage Fee: if a contract's persistent data occupies the blockchain storage, a periodic rent fee (contracts must pay per cell of storage per block interval).

Bandwidth/Message Fees: for sending messages (intra-shard or inter-shard routing).

Forwarding Fee: paid to forward messages between shards (covering the load on the network).On average, a simple transfer has a small fee, around 0.005 TON as noted, but this can vary based on

network load and message size. These fees are set by the protocol but validators can adjust certain parameters (like gas price) if needed via governance to ensure network stability.

Fee Distribution: When a block is produced, the fees from the transactions in that block are divided: 50% of the fees are burned (destroyed) and 50% are awarded to validators (often part of the block reward mechanism).Burning half the fees introduces a deflationary aspect – it reduces total supply over time, counteracting inflation from block rewards and benefiting all token holders by making supply growth slower (or potentially negative if network usage is very high). The other half of fees going to validators (and their delegators) supplements the block reward, increasing validator earnings when the network is busy. This aligns validator incentives with network performance – more network activity yields more fees to earn.

Slashing and Rewards for Honesty: If a validator misbehaves (double-signs or validates a bad block) and is caught, a portion of their staked TON gets slashed (confiscated). The slashed amount is mostly burned but a part is given as reward to the fisherman (whistleblower) who provided proof of the misbehavior. Also, other validators might get a portion as a reward for confirming the slashing. This mechanism disincentivizes attacks: validators stand to lose significant stake (which likely far exceeds any short-term gain from cheating). It also motivates others to police the system (since fishermen can earn a reward).

Delegator Incentives: Not all TON holders will run nodes, so they can delegate to validators. Many validators (especially professional ones) accept delegation. The incentive for nominators is to earn a share of block rewards and fees proportional to their contribution. Typically, a validator will keep a commission (say 10-20%) of the rewards and pass the rest to delegators. This allows even small holders to earn yield (the effective staking APY might be a few percent, depending on total staked and rewards).

Economics of Supply: The initial 5bn supply plus ~0.6% inflation minus fee burns yields an equilibrium. If TON usage is moderate, maybe half the inflation is offset by burns. If TON usage is extremely high, it could burn equal or more than inflation, making supply growth zero or negative, which could drive token scarcity up. This ties the network's success to token economics (heavy usage benefits token value by reducing supply increase).

User Perspective (Applicable Fees): For users, the fees in TON are very low per transaction – this encourages usage (micro-payments and frequent interactions are feasible, e.g., sending a message transaction costing maybe $0.001). There's no fee discrimination: all users follow same fee formula. There's a concept of capacitance in TON: if a contract runs out of funds to pay rent, it gets frozen (so contract owners must ensure to keep some TON to pay storage fees). This motivates contract developers to design economically efficient contracts and possibly charge their users accordingly.

Validation Costs vs. Rewards: Running a validator has costs (hardware, bandwidth). The incentive structure via block rewards and fees is calibrated so that if X% of total TON is staked, validators get roughly Y% yield. Currently, if around 20% of supply is staked, yields might be on the order of 3-4% annually (a mix of inflationary reward and fees). If fewer stake, yields go up (incentivizing more to join). This tends toward an equilibrium stake participation. It appears the network had about 4.36% of supply staked (as per some stat snippet), though that might be outdated or only counting a subset; the Believers Fund locking increased effective stake. Over time, as TON adoption grows, transaction fees could become a bigger part of validator income relative to inflation, eventually allowing inflation to be very low while still rewarding validators from fees.

H.6 Use of Distributed Ledger Technology

True

H.7 DLT Functionality Description

The Open Network (TON) blockchain. This is a layer-1 blockchain that utilizes DLT principles. Maintains a decentralized, distributed ledger where data is synchronized across multiple network

nodes.Implements consensus mechanisms to validate transactions.Supports smart contracts, token issuance, and decentralized applications (dApps).

H.8 Audit

Yes

H.9 Audit Outcome

The security assessment resulted in findings that ranged from critical to informational. Report recommend addressing these findings to ensure a high level of security standards and industry practices. Additionally, recommendations that could better serve the project from the security perspective: Minimize the usage of auto keyword, use explicit type specification; Add enough unit tests to cover the possible use cases; Provide more comments per each function, specify what Class::method() is supposed to call it; Provide more comments per each member field; Provide more transparency on general communication workflow in code comments.

https://docs.ton.org/audits/TON_Blockchain_CertiK.pdf

I. PART I – INFORMATION ON RISKS

I.1 Offer-Related Risks

Market & Trading Risks. Since this document pertains to admission to trading (not a new sale), the primary “offer-related” risks are those associated with trading Toncoin on secondary markets

Market Volatility: Toncoin’s market price is highly volatile. Its value can rapidly fluctuate due to market sentiment, overall crypto market conditions, news, or technological developments. Holders could experience significant gains or losses in short time frames. There is no price stability mechanism for Toncoin; it floats freely. Prospective traders should be prepared for extreme volatility – price swings of 20–30% in a day are not uncommon in crypto markets.

Liquidity Risk: While Toncoin is traded on multiple exchanges and has generally good liquidity (as of 2025, daily volumes are substantial), liquidity can vary. In normal conditions, Toncoin’s liquidity is high (ranking among top cryptocurrencies by market cap). However, during market stress or off-peak hours, liquidity might thin out, leading to larger slippage for big trades.Additionally, unforeseen events (exchange delistings, regulatory crackdowns) could impact the ease of buying/selling Toncoin.

Regulatory Uncertainty in Trading: Different jurisdictions have varying stances on crypto trading. Within the EU, MiCA will harmonize rules, but globally, news such as potential bans, classification as a security in some country, or tax law changes can affect Toncoin’s market. For example, if a major country imposes restrictions on Toncoin trading, overall market demand could drop and liquidity on exchanges might fragment.

Exchange Risk: Trading Toncoin requires using cryptocurrency exchanges or platforms. These come with their own risks: an exchange could suffer technical outages at critical times (preventing trades when prices move), or even insolvency/hacks (as seen with platforms like Mt. Gox or FTX).

Macro and Correlation Risk: Broader financial market trends and macroeconomic events can indirectly affect crypto prices including Toncoin. For instance, changes in interest rates can shift investors’ appetite for risk assets like crypto. Toncoin often moves in correlation with overall crypto market (especially Bitcoin and other large caps). Thus, even if TON-specific news is good, a crypto-wide downturn could still drive Toncoin’s price down significantly.

Event Risk: Specific events, such as large token unlocks (like the planned unlocking from the Believers Fund in late 2025 onward of ~37M TON monthly) could increase supply in circulation and put downward pressure if not absorbed by demand. Also, any network incidents (e.g., downtime or hacks on TON-based apps) might hurt market confidence temporarily.

Trading Conditions Variability: Different trading venues might have different rules (e.g., some exchanges might not allow certain order types for Toncoin, or might have withdrawal limits).

I.2 Issuer-Related Risks

Decentralization & Ecosystem Risks. Toncoin does not have a central corporate issuer, which eliminates certain traditional issuer risks (no company to go bankrupt). However, the ecosystem supporting TON entails several entities and factors whose risks should be considered

Lack of Central Accountability: With no central issuer, there’s no entity obligated to support Toncoin’s value or operations. While this is core to decentralization, it means if something goes wrong, there’s no company to hold accountable or to step in with fixes. The network is maintained by open-source contributors – if they lost interest or funding, development could slow, affecting TON’s competitiveness.

TON Foundation & Core Developers: The TON Foundation plays a key role in funding and guiding development. If the Foundation faces issues (legal actions, loss of funds, internal disputes) or ceases operations, the momentum of the project could suffer. Similarly, core developers leaving or project leadership changes could introduce uncertainty. Although the project can continue with community effort, a loss of key talent might delay critical upgrades or reduce confidence.

Regulatory/Legal Risks for Ecosystem Entities: While Toncoin itself is decentralized, specific bodies like the TON Foundation, or even Telegram (which is not officially involved now but historically linked) could become targets of regulatory actions

Network Governance & Forks: Upgrades to TON require community consensus (as described). While this decentralization is a strength, it also poses a risk: disagreements among core contributors or validators might slow down decision-making or, in extreme cases, lead to chain splits (forks).

Validator Centralization: If a large portion of TON's staking power concentrates in a few validators or pools, those entities could wield outsized influence on network decisions and block production

Associated Platforms: TON's success partly depends on usage, including integration with Telegram (unofficial bots/wallets) and adoption in DeFi/NFTs. If Telegram (the app) decided to distance itself from TON or restrict related bots due to regulatory pressure, one growth avenue could narrow.

Early Holder Risk: The initial distribution left a large portion with early miners (some frozen). There's risk regarding how those frozen tokens will be handled once unlocked. The community froze ~1.08B TON until 2026. When that period ends, if those tokens (which may belong to early investors or possibly to entities linked to Telegram) are suddenly moved or sold, it could create market volatility or even questions of legal ownership.

Operational Security: The TON Foundation and core devs not being a formal company means no formal service level guarantees. Network infrastructure (like explorers, official websites) could be attacked or go down. The community would have to rally to fix issues. For instance, if a critical bug was found, the decentralized nature means coordinating a fix might be slower than in a centralized project where an issuer could force-update nodes.

I.3 Crypto-Assets-Related Risks

Intrinsic Risks of Toncoin as a Crypto-Asset. These encompass general risks of holding crypto and specifics of Toncoin

High Volatility & Market Risk: (This overlaps with I.1 but is worth reiterating.) Toncoin's price can rise or fall drastically. It has no inherent value guarantee; its price is determined by market demand. A Toncoin holder faces the risk of losing a substantial portion or even all of their investment if the market moves negatively.

Lack of Intrinsic Value: Toncoin's value is not backed by any physical commodity or government decree. Its value derives from utility (needed for fees/staking) and network effect. If the TON network's usage does not grow as expected or if another cryptocurrency outshines Toncoin in utility, demand for Toncoin could diminish. Without a backing or guaranteed redemption, holders rely solely on market sentiment.

Liquidity and Accessibility: Toncoin is currently accessible on many exchanges, but regulatory changes could affect that (for instance, if a jurisdiction bars trading of non-compliant crypto). Additionally, though Toncoin has grown in popularity, it is still not as universally recognized as Bitcoin or Ether. In certain situations (market crash or exchange issues), liquidity could dry up and holders might struggle to quickly convert Toncoin to fiat or other assets

Custodial Risk: Holding Toncoin requires secure storage of private keys. If a holder uses a self-custody wallet, loss of the private key or seed phrase means permanent loss of the Toncoin.There is no recovery mechanism (no bank to reset a password).

Cybersecurity Risks: As a digital asset, Toncoin is subject to hacking and malware risks. Hackers frequently target crypto holders via malware (stealing wallet keys), sim-swapping phone numbers, or exploiting vulnerabilities in wallet software. There is also smart contract risk – if you interact with Toncoin via a smart contract (say, deposit into a DeFi contract on TON), a bug in that contract could cause loss of funds. While the TON blockchain itself uses robust cryptography, ancillary software (wallets, exchanges, smart contracts on TON) can be points of failure.

Regulatory and Taxation Risks: Owning Toncoin might have legal implications depending on jurisdiction. Some countries may impose taxes on crypto holdings or transactions (capital gains tax, VAT, etc.)

Network Security & Technical Risks: TON's technology, while advanced, is not immune to potential bugs or attacks. There's a risk (albeit seemingly low with current knowledge) of a consensus failure – if, say, a severe bug caused the network to halt or allowed double-spending until patched, that could severely impact trust and value.

Competition: There are many blockchain platforms (Ethereum, Binance Smart Chain, Solana, Cardano, etc.). Toncoin's value depends partly on the success of TON relative to competitors. If TON fails to attract developers or users and a competing network becomes dominant for the same use cases, Toncoin demand could stagnate or fall. Conversely, if TON finds a niche (like Telegram integration) and thrives, Toncoin could gain. But that competitive uncertainty is a risk – the ecosystem's growth is not guaranteed.

Sustainability of Staking Rewards: Currently, validators are incentivized by inflationary rewards. Over time, if the TON economy relies more on fees and less on inflation (as intended), that shift must be managed. If network activity doesn't increase to provide sufficient fee revenue but inflation is reduced (or large supply enters circulation from unlocks), validator incentives could diminish, potentially affecting security if not enough stake finds it profitable to validate. This is a longer-term systemic risk: balancing security budget vs. token economics.

I.4 Project Implementation-Related Risks

These concern the execution of the TON project's roadmap and ecosystem growth:

Development Risk: The continued improvement of TON's protocol and infrastructure relies on the TON Foundation and community developers. There is a risk that development goals (like implementing new features, scaling enhancements, or governance tools) are delayed or not achieved. For example, if planned upgrades (such as better bridging with other chains, or more developer tools) do not materialize on schedule, TON could lose momentum or developers might choose other platform.

Ecosystem Growth Risk: The utility of Toncoin increases with a vibrant ecosystem of dApps, services, and users. If the TON ecosystem fails to grow – e.g., few dApps are built, user adoption stalls – then demand for Toncoin might not increase as projected, limiting its value. Risks that could impede growth include lack of developer interest, insufficient documentation or tools, or competition attracting projects away. Additionally, TON's success partly hinges on community engagement. Should the community interest wane (due to market downturn or other projects becoming more exciting), development contributions and advocacy could drop.

Telegram Integration and User Acquisition: A unique opportunity for TON is integration with Telegram's vast user base (through bots and wallet features). However, this is not officially endorsed by Telegram currently (beyond minor integration support). There's a risk that full integration never happens or is hampered by app store policies or regulatory issues. If, say, Apple or Google disallow in-app crypto features in Telegram, that could block one path of adoption. Moreover, if Telegram were to launch or support a different blockchain or token in the future, TON would lose a key assumed growth vector.

Timeline Risk: Many projects outline roadmaps but find that technical challenges or external factors push milestones out. For instance, introducing on-chain governance or sharding beyond the initial workchain could prove more complex. Delays can affect community trust and allow competitors to capture the market first. If major improvements (like a certain scaling target or tool release) are significantly delayed, TON might struggle to onboard large-scale applications as planned.

Partnership and Use-Case Risk: Real-world usage often comes from partnerships (e.g., with payment providers, enterprises, or DeFi platforms). If TON fails to secure meaningful partnerships or if anticipated use cases do not pan out (for example, if decentralized storage via TON Storage doesn't

attract usage against competitors like IPFS/Filecoin), then the broader value proposition could weaken. Relying on community to organically drive all use cases can be slow.

Governance Challenges: As the network grows, coordinating changes or direction might become harder (the classic “governance scalability” issue). The TON community may face disagreements about technical directions or how to allocate any community funds. Without formal governance structures early on, implementation of changes can become contentious. If a controversial change arises (like altering the inflation rate or reversing a bug incident), it could cause community splits or user dissatisfaction.

Operational Continuity of Support Organizations: The TON Foundation is crucial now. If it were to dissolve or face funding shortages, who will continue paying developers or organizing development? While open-source volunteers could step in, lack of structured coordination might slow progress. Ensuring the project’s institutions (foundation, developer groups) remain operational is an implicit risk.

Regulatory Implementation risk: If MiCA or other regulations impose specific requirements (like mandatory white papers, etc.), failing to comply could hinder listings or partnerships.

I.5 Technology-Related Risks

These concern potential failures or attacks on the TON blockchain’s technology

Software Bugs: The TON blockchain software, like any complex software, could have unknown bugs or vulnerabilities. A critical bug could lead to unintended behavior – e.g., an exploit allowing an attacker to drain smart contracts, a consensus bug causing network forks or downtime, or a cryptographic flaw.

Consensus Failure: BFT systems typically either work or halt (they shouldn’t produce invalid transactions if <1/3 are malicious, but could halt if assumptions break). A scenario like a network partition splitting validators (perhaps due to internet issues or targeted DDoS on nodes) could temporarily disrupt consensus.

51% Attack (or 34% in BFT terms): If an attacker somehow accumulates >1/3 of the total stake (or colludes with others to do so), they could disrupt the network. Specifically, with >33% stake, they could prevent consensus on new blocks (causing stalls) by always voting against progress, or in worst case create conflicting blocks to confuse network (though finality would prevent finalizing conflicts if <2/3 sign each). With >2/3 stake (a very high bar), an attacker could outright control the chain (finalize malicious blocks, censor transactions, double-spend). The economic cost is very high (they’d have to buy or control a huge amount of TON), but low liquidity times or cheap prices could theoretically make an attack more feasible. Also, if a government or large organization aimed to sabotage TON, they might attempt to acquire stake or coerce major validators – a social attack vector.

Quantum Computing: As mentioned, TON uses elliptic curve cryptography (Ed25519). Quantum computers in the future (perhaps a decade or more away) could break ECC, allowing an attacker with a sufficiently powerful quantum computer to derive private keys from public keys. If TON (and the community at large) doesn’t transition to quantum-resistant algorithms by that era, all TON accounts could be vulnerable. While this is a known future risk for all crypto, it is a technology risk nonetheless. Research is ongoing globally for post-quantum cryptography. TON would need a hard fork or upgrade to implement PQC when appropriate – which itself is a complex endeavor requiring coordination.

Smart Contract Risks on TON: The TON blockchain allows smart contracts (for Jettons, NFTs, etc.). Vulnerabilities in popular contracts (like a bug in a Jetton contract standard or a DeFi contract) could cause loss of assets or network instability (if e.g. a flawed contract logic gets exploited massively). Though that doesn’t directly affect Toncoin’s core ledger, it can indirectly impact user confidence and the ecosystem’s health.

Network Attacks (DDoS or Spam): Attackers might try to flood the TON network with excessive transactions or spam messages aiming to slow it down or bloat the ledger. TON’s fee mechanism is meant to make spamming costly (you pay fees for using resources, and heavy use triggers dynamic fee increases possibly).

Censorship by Validators: A majority of validators might attempt to censor certain transactions (not include them in blocks). If a collusion of >2/3 stake tried, they could succeed in preventing certain addresses from transacting (by simply never including those transactions). This is a risk in any PoS chain (or even PoW with mining pools). While currently there's no known motive for such censorship in TON, future regulatory pressures could theoretically push some validators to censor (e.g., blacklisting addresses). This technical risk intersects governance/regulation. Censorship would harm fungibility of Toncoin and network neutrality.

Dependency Risks: TON's technology also depends on external factors: e.g., the security of cryptographic libraries it uses (if an upstream library has a flaw), the reliability of internet infrastructure, time synchronization, etc. If, say, a vulnerability is found in OpenSSL's implementation of Ed25519 (hypothetically), TON nodes might be affected until patched.

I.6 Mitigation Measures

Robust Consensus and Security Design: TON's PoS BFT consensus is designed for security (tolerating up to 1/3 faults) and fast recovery. Its use of slashing and fishermen mechanisms mitigates the risk of malicious validator behavior by imposing significant financial penalties for misconduct.

Decentralization and Validator Diversity: The TON network encourages decentralization by allowing broad participation in staking (delegation lowers entry barrier) and by having validators spread globally. Diversity of validators – run by independent individuals and entities across different jurisdictions – strengthens resilience against coordinated attacks or censorship directives

Continuous Network Enhancements: The TON core developers continuously maintain and upgrade the network for performance and security. Protocol upgrades are carefully tested on testnets before deployment. TON's high throughput and sharding model mitigate scalability risks – the network can handle growth without performance collapse, thus avoiding issues that have plagued some other chains when usage spikes (e.g., extremely high fees or stalled blocks).

Security Monitoring and Response: The open-source nature of TON means many eyes on the code. The community often runs bug bounty programs or security audits informally. Continuous monitoring is done by both the TON Foundation and independent contributors for any network anomalies or potential vulnerabilities. If an issue is found, the governance processes in place (like emergency core dev meetings and validator communications) aim to deploy patches quickly. For example, if a critical bug were found, validators could coordinate to update the software in a short time frame, given the community's alignment on security.

Cryptographic Agility and Research: The TON developers keep abreast of cryptographic advances. Although Ed25519 is currently quantum-susceptible long-term, the awareness of this issue exists and research into post-quantum signatures is ongoing in the broader crypto community.When standards emerge, TON can implement new cryptographic primitives (the protocol is flexible enough to add new signature types via Masterchain config updates). Planning for eventual quantum resistance is a mitigation in progress.

User Security Best Practices: The TON community educates users on secure key management – promoting hardware wallets, multi-signature wallets (which TON supports via custom contracts) and prudent operational security (not clicking phishing links, etc.). For example, there are multi-sig wallet contracts where a user can require 2-of-3 keys to move funds, mitigating total loss from one key compromise.

Regulatory Engagement and Transparency: Voluntary compliance (like publishing this MiCA white paper) and general proactive approach to regulation help mitigate regulatory risks.By providing transparency around Toncoin and its network, regulators and institutions are more comfortable with it, which in turn reduces the risk of bans or unexpected regulatory barriers.

Governance Processes: To mitigate the risk of contentious decisions, the TON community has established processes for proposals (via ton.vote, TIPs (TON Improvement Proposals), etc.) thereby ensuring broad input before major changesThis consensus culture mitigates the risk of chain splits or

rash changes. If a disagreement arises, the existence of discussion platforms and non-binding votes helps measure sentiment and avoid unilateral moves. Over time, these governance practices will strengthen, possibly including on-chain voting which, if implemented, will be thoroughly tested to avoid governance attacks.

Quantum Preparedness: As noted, cryptographic research is ongoing. The community will likely incorporate post-quantum cryptography well before large-scale quantum computers are available.This mitigates the long-term risk – essentially, by staying updated and agile, TON's cryptography can be upgraded. The TON community can even practice migrating keys (users encouraged to use wallet addresses that hash the public key, so quantum attacker would still need to break hash, giving time for migration).

Network Redundancy and Recovery: TON's multi-chain architecture gives it some resiliency. If one shardchain had an issue, it doesn't necessarily bring down others. Masterchain coordination ensures consistency; in case of a localized problem, the network can isolate and recover. Additionally, full nodes globally maintain the ledger; if a catastrophic event occurred, as long as some nodes survive with the latest state, the network can be restarted from that state snapshot by community consensus. This is a disaster recovery advantage of decentralized networks – there isn't one central data center that, if destroyed, would lose all data.

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 TON token is designed to operate on blockchain networks that utilize more energy-efficient consensus mechanisms, which are generally less energy-intensive than traditional Proof-of-Work systems. The total annual electricity usage of the TON network (all validators combined) is estimated to be on the order of 1385175.00000 kwh.

General information	
S.1 Name *Name reported in field A.1*	LCX
S.2 Relevant legal entity identifier Identifier referred to in field A.2	529900SN07Z6RTX8R418
S.3 Name of the crypto-asset Name of the crypto-asset, as reported in field D.2	Toncoin
S.4 Consensus Mechanism The consensus mechanism, as reported in field H.4	Toncoin employs a Proof of Stake (PoS) model integrated with the Catchain consensus algorithm to establish a secure, scalable, and efficient multi-chain ecosystem. In this framework, validators stake Toncoin to participate in consensus, playing a critical role in validating transactions and maintaining the integrity of the network. The Catchain protocol, tailored for Toncoin's multi-chain architecture, ensures high scalability and speed by enabling parallel processing across multiple shards. Its multi-chain compatibility allows different shards to independently and efficiently reach consensus, significantly boosting throughput. The protocol also incorporates Byzantine Fault Tolerance (BFT), which allows the network to remain resilient and operational even in the presence of some malicious or faulty validators. To further enhance decentralization and security, validators are rotated regularly, preventing any single entity from dominating the consensus process. Additionally, malicious or underperforming validators face slashing penalties, losing a portion of their staked Toncoin, thereby incentivizing honest behavior and promoting robust network participation.

S.5 Incentive Mechanisms and Applicable Fees Incentive mechanisms to secure transactions and any fees applicable, as reported in field H.5	Toncoin incentivizes network security, participation, and efficiency through a combination of staking rewards, transaction fees, and slashing penalties. Validators earn staking rewards in Toncoin for actively participating in the network's consensus process, with rewards proportional to their staked amount—encouraging responsible and consistent validator behavior. In addition to staking rewards, validators receive a share of transaction fees from the blocks they validate, generating ongoing income that scales with network usage. To ensure decentralization, the network regularly rotates validators, allowing new participants to join the validator set and preventing monopolization by a small group. To uphold network integrity, Toncoin enforces a slashing mechanism that penalizes validators for malicious behavior or failure to perform duties, deterring dishonesty through the risk of losing staked Toncoin. Furthermore, all transaction fees on the TON blockchain are paid in Toncoin and vary based on network demand and complexity, ensuring fair validator compensation and efficient resource allocation.
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	1385175.00000 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.	14.770208242%
S.11 Energy intensity Average amount of energy used per validated transaction	0.00000 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.