MiCA White Paper

Avalanche (AVAX)

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).

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).

00 TABLE OF CONTENT

COMPLIANCE STATEMENTS **6**

SUMMARY **7**

A. PART A - INFORMATION ABOUT THE OFFEROR OR THE PERSON SEEKING ADMISSION TO TRADING **9**

A.1 Name 9

A.2 Legal Form 9

A.3 Registered Address 9

A.4 Head Office 9

A.5 Registration Date 9

A.6 Legal Entity Identifier 9

A.7 Another Identifier Required Pursuant to Applicable National Law 9

A.8 Contact Telephone Number 9

A.9 E-mail Address 9

A.10 Response Time (Days) 9

A.11 Parent Company 9

A.12 Members of the Management Body 9

A.13 Business Activity 9

A.14 Parent Company Business Activity 10

A.15 Newly Established 10

A.16 Financial Condition for the past three Years 10

A.17 Financial Condition Since Registration 10

B. PART B - INFORMATION ABOUT THE ISSUER, IF DIFFERENT FROM THE OFFEROR OR PERSON SEEKING ADMISSION TO TRADING **11**

B.1 Issuer different from offeror or person seeking admission to trading 11

B.2 Name 11

B.3 Legal Form 11

B.4 Registered Address 11

B.5 Head Office 11

B.6 Registration Date 11

B.7 Legal Entity Identifier 11

B.8 Another Identifier Required Pursuant to Applicable National Law 11

B.9 Parent Company 11

B.10 Members of the Management Body 11

B.11 Business Activity 11

B.12 Parent Company Business Activity 11

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 **12**

C.1 Name 12

C.2 Legal Form 12

C.3 Registered Address 12

C.4 Head Office 12

C.5 Registration Date 12

C.6 Legal Entity Identifier 12
C.7 Another Identifier Required Pursuant to Applicable National Law 12
C.8 Parent Company 12
C.9 Reason for Crypto-Asset White Paper Preparation 12
C.10 Members of the Management Body 12
C.11 Operator Business Activity 12
C.12 Parent Company Business Activity 13
C.13 Other persons drawing up the white paper under Article 6 (1) second subparagraph MiCA 13
C.14 Reason for drawing up the white paper under Article 6 (1) second subparagraph MiCA 13
D. PART D - INFORMATION ABOUT THE CRYPTO-ASSET PROJECT 14
D.1 Crypto-Asset Project Name 14
D.2 Crypto-Assets Name 14
D.3 Abbreviation 14
D.4 Crypto-Asset Project Description 14
D.5 Details of all persons involved in the implementation of the crypto-asset project 14
D.6 Utility Token Classification 15
D.7 Key Features of Goods/Services for Utility Token Projects 15
D.8 Plans for the Token 15
D.9 Resource Allocation 15
D.10 Planned Use of Collected Funds or Crypto-Assets 15
E. PART E - INFORMATION ABOUT THE OFFER TO THE PUBLIC OF CRYPTO-ASSETS OR THEIR ADMISSION TO TRADING 16
E.1 Public Offering or Admission to Trading 16
E.2 Reasons for Public Offer or Admission to Trading 16
E.3 Fundraising Target 16
E.4 Minimum Subscription Goals 16
E.5 Maximum Subscription Goal 16
E.6 Oversubscription Acceptance 16
E.7 Oversubscription Allocation 16
E.8 Issue Price 16
E.9 Official Currency or Any Other Crypto-Assets Determining the Issue Price 16
E.10 Subscription Fee 16
E.11 Offer Price Determination Method 16
E.12 Total Number of Offered/Traded Crypto-Asset 16
E.13 Targeted Holders 17
E.14 Holder Restrictions 17
E.15 Reimbursement Notice 17
E.16 Refund Mechanism 17
E.17 Refund Timeline 17
E.18 Offer Phases 17
E.19 Early Purchase Discount 17
E.20 Time-Limited Offer 17
E.21 Subscription Period Beginning 17
E.22 Subscription Period End 17
E.23 Safeguarding Arrangements for Offered Funds/Crypto-Assets 17
E.24 Payment Methods for Crypto-Asset Purchase 17
E.25 Value Transfer Methods for Reimbursement 17

E.26 Right of Withdrawal 17
E.27 Transfer of Purchased Crypto-Assets 17
E.28 Transfer Time Schedule 17
E.29 Purchaser's Technical Requirements 18
E.30 Crypto-asset service provider (CASP) name 18
E.31 CASP identifier 18
E.32 Placement Form 18
E.33 Trading Platforms name 18
E.34 Trading Platforms Market Identifier Code (MIC) 18
E.35 Trading Platforms Access 18
E.36 Involved Costs 18
E.37 Offer Expenses 18
E.38 Conflicts of Interest 18
E.39 Applicable Law 18
E.40 Competent Court 18
F. PART F - INFORMATION ABOUT THE CRYPTO-ASSETS 19
F.1 Crypto-Asset Type 19
F.2 Crypto-Asset Functionality 19
F.3 Planned Application of Functionalities 19
F.4 Type of white paper 19
F.5 The type of submission 19
F.6 Crypto-Asset Characteristics 19
F.7 Commercial name or trading name 20
F.8 Website of the issuer 20
F.9 Starting date of offer to the public or admission to trading 20
F.10 Publication date 20
F.11 Any other services provided by the issuer 20
F.12 Language or languages of the white paper 20
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 20
F.14 Functionally Fungible Group Digital Token Identifier, where available 20
F.15 Voluntary data flag 20
F.16 Personal data flag 20
F.17 LEI eligibility 20
F.18 Home Member State 20
F.19 Host Member States 20
G. PART G - INFORMATION ON THE RIGHTS AND OBLIGATIONS ATTACHED TO THE CRYPTO-ASSETS 21
G.1 Purchaser Rights and Obligations 21
G.2 Exercise of Rights and Obligation 21
G.3 Conditions for Modifications of Rights and Obligations 21
G.4 Future Public Offers 21
G.5 Issuer Retained Crypto-Assets 21
G.6 Utility Token Classification 21
G.7 Key Features of Goods/Services of Utility Tokens 21
G.8 Utility Tokens Redemption 21
G.9 Non-Trading Request 21

G.10 Crypto-Assets Purchase or Sale Modalities 21
G.11 Crypto-Assets Transfer Restrictions 21
G.12 Supply Adjustment Protocols 21
G.13 Supply Adjustment Mechanisms 22
G.14 Token Value Protection Schemes 22
G.15 Token Value Protection Schemes Description 22
G.16 Compensation Schemes 22
G.17 Compensation Schemes Description 22
G.18 Applicable Law 22
G.19 Competent Court 22
H. PART H – INFORMATION ON THE UNDERLYING TECHNOLOGY 22
H.1 Distributed ledger technology 22
H.2 Protocols and Technical Standards 23
H.3 Technology Used 24
H.4 Consensus Mechanism 26
H.5 Incentive Mechanisms and Applicable Fees 27
H.6 Use of Distributed Ledger Technology 27
H.7 DLT Functionality Description 27
H.8 Audit 28
H.9 Audit Outcome 28
I. PART I – INFORMATION ON RISKS 29
I.1 Offer-Related Risks 29
I.2 Issuer-Related Risks 29
I.3 Crypto-Assets-Related Risks 29
I.4 Project Implementation-Related Risks 30
I.5 Technology-Related Risks 31
I.6 Mitigation Measures 32
J. PART J - INFORMATION ON THE SUSTAINABILITY INDICATORS IN RELATION TO ADVERSE IMPACT ON THE CLIMATE AND OTHER ENVIRONMENT-RELATED ADVERSE IMPACTS 33
J.1 Mandatory information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism 33
J.2 Supplementary information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism 36

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

Avalanche's native crypto-asset, AVAX, is a token that powers the Avalanche blockchain network (a high-performance Layer 1 platform). AVAX is used to pay transaction fees on Avalanche's chains, to stake and secure the network via Proof-of-Stake, and to interact with decentralized applications (dApps) operating on Avalanche subnets. Holding AVAX may enable participation in certain on-chain activities (such as validating subnets or voting on network parameters), but it confers no ownership rights or guaranteed returns. AVAX does not represent equity in any company, carry governance rights in a legal entity, nor entitle holders to profits, dividends, or any form of guaranteed utility beyond its technical functions within the Avalanche ecosystem.

While AVAX performs various technical functions in the Avalanche protocol, this should not be confused with the regulatory definition of a "Utility Token" under MiCAR. AVAX is not limited to access to a specific good or service, and is not issued by a service provider in that context.

09 Not applicable

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

Avalanche (AVAX) is a decentralized, open-network token with no centralized issuer conducting a public offering. The token was initially distributed through a token sale and network launch in 2020, and it is now widely held and traded. This white paper is prepared voluntarily in compliance with MiCA to provide transparency regarding AVAX's admission to trading on regulated platforms. AVAX is already in circulation and actively traded globally; no new issuance or public sale of AVAX is being conducted in connection with this document. Instead, the focus is on disclosure as AVAX is made available for trading under the MiCA framework. LCX AG, as a Crypto-Asset Service Provider, facilitates the listing and trading of AVAX on its platform in a compliant manner. LCX's regulated exchange will support AVAX trading (e.g., AVAX/EUR , AVAX/USDC pairs), providing a secure and transparent marketplace. Users must have an LCX account and complete KYC/AML verification to trade AVAX on LCX, in line with regulatory requirements.

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.

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

Avalanche Foundation Limited

B.3 Legal Form

Public Company Limited by Guarantee

B.4 Registered Address

1 Irving Place, #08-11, The Commerze@Irving, Singapore 369546

B.5 Head Office

1 Irving Place, #08-11, The Commerze@Irving, Singapore 369546

B.6 Registration Date

June 19, 2020

B.7 Legal Entity Identifier

969500L9HNV3UKVT0Z31

B.8 Another Identifier Required Pursuant to Applicable National Law

Unique Entity Number (UEN): 202017159W

B.9 Parent Company

Not applicable

B.10 Members of the Management Body

As of the latest available information, the Board of Directors includes:

- Dr. Emin Gün Sirer
- Sean Inggs
- Nicolas Lemaitre

Note: In March 2025, board members Dr. Ömer Demirel, Aytunç Yildizli, and Vikram Nagrani resigned from their positions.

B.11 Business Activity

Not applicable

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 voluntarily preparing this MiCA-compliant white paper for Avalanche (AVAX) to enhance transparency, regulatory clarity, and investor confidence in the trading of AVAX. While AVAX qualifies as “Other Crypto-Assets” under MiCA. LCX is providing this document to support its role as a regulated Crypto-Asset Service Provider and to ensure full compliance with MiCA when facilitating AVAX trading on its platform. By publishing a MiCA white paper for AVAX, LCX aims to set a high disclosure standard and help market participants make informed decisions about the asset within the EU’s regulatory framework.

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.

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

Avalanche

D.2 Crypto-Assets Name

Avalanche

D.3 Abbreviation

AVAX

D.4 Crypto-Asset Project Description

Avalanche is a decentralized blockchain platform launched in September 2020 that is designed for high throughput, scalability, and quick finality. Avalanche introduces a novel consensus protocol (Avalanche consensus) that achieves near-instant transaction finality (often under 2 seconds) and can handle thousands of transactions per second. The Avalanche network's architecture is unique: it consists of a Primary Network that includes three built-in blockchains (the Exchange Chain, Platform Chain, and Contract Chain – often abbreviated X-Chain, P-Chain, and C-Chain) and an open framework for creating custom Subnets (independent sets of validators that can run their own blockchains).

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

Avalanche is an open-source project with no single centralized issuer. Its development and maintenance are carried out by a decentralized community of contributors, with significant roles played by Ava Labs (a for-profit software company that initially launched Avalanche) and the Avalanche Foundation (a non-profit organization supporting the ecosystem).

Full Name	Business Address	Function
Emin Gün Sirer	*Not applicable*	*Co-Founder, CEO of Ava Labs – Protocol*
Kevin Sekniq	*Not applicable*	*Co-Founder, COO of Ava Labs – System Architect*
Ted Yin	*Not applicable*	*Co-Founder, Chief Protocol Architect – Consensus design*
Avalanche Foundation	*1 Irving Place, #08-11, The Commerze@Irving, Singapore 369546*	*Development & Ecosystem Support*
Avalanche Core Developers	*Global*	*Software Development & Maintenance*
Avalanche Validators	*Global*	*Transaction Validation & Security (PoS)*

Avalanche 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's reason for admitting AVAX to trading and preparing this white paper is to foster transparency and compliance. Avalanche's AVAX token is a well-established crypto-asset, and by providing a MiCA-compliant disclosure, LCX aims to facilitate regulatory clarity and market confidence for European investors trading AVAX. This initiative supports compliance readiness ahead of MiCA enforcement and underscores LCX's commitment as a regulated exchange to provide comprehensive information about listed assets. Publishing this white paper can also enhance market access for AVAX—by removing regulatory uncertainty, institutional investors and regulated entities in the EU may feel more comfortable engaging with AVAX. In essence, offering AVAX trading under a MiCA framework helps integrate Avalanche into the regulated financial ecosystem, potentially broadening its user base. It reinforces LCX's role in shaping a compliant and transparent crypto market by voluntarily applying MiCA's investor protection principles to a major Layer 1 token. This should ultimately benefit the Avalanche ecosystem through greater trust and participation from EU market actors.

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-Asset

As of March 2025, approximately 420 million AVAX tokens are in circulation out of a maximum capped supply of 720 million AVAX. (Avalanche's tokenomics feature a hard cap of 720 million tokens. About 50% of this supply was issued at launch in 2020, and the remainder is gradually released as staking rewards. The current circulating supply includes tokens distributed or released from vesting schedules for early contributors, the Avalanche Foundation, and public sales, as well as tokens minted as validator rewards. Avalanche's design involves a diminishing issuance: the initial annual minting rate was higher and declines over time as the network approaches the cap. Notably, Avalanche also burns all transaction fees, meaning those tokens are permanently removed from supply, which offsets some of the new issuance. There is no discretionary supply adjustment mechanism; the supply increases

according to the protocol’s rules and decreases slightly through fee burns.) A portion of AVAX’s total supply is held by early investors, the Avalanche Foundation, and the team (subject to vesting schedules that have mostly elapsed by 2025), and a large portion is actively staked by validators and delegators to secure the network.

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

AVAX is widely traded on numerous cryptocurrency exchanges globally (both regulated and unregulated). As a decentralized asset, AVAX 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 AVAX trading (pair AVAX/EUR, AVAX/USDC). To access AVAX 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 – AVAX as a crypto-asset itself is not governed by any specific national law or jurisdiction. Avalanche is a decentralized network that operates on a global scale, and AVAX tokens exist on the blockchain independent of legal jurisdiction. There is no contractual framework (like an investment contract or debt instrument) attached to AVAX 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

AVAX, the native token of the Avalanche blockchain, plays a crucial role in the network by serving as a means of transaction fee payment, staking for network security, and governance within subnets. It is used to pay for transactions across Avalanche's X-Chain, C-Chain, and P-Chain, with fees being burned to reduce supply growth. AVAX holders can stake their tokens to become validators or delegators, securing Avalanche's Proof-of-Stake consensus and earning rewards. While Avalanche does not have a formal on-chain governance system for protocol-wide changes, AVAX is required for subnet creation and may be used for future governance decisions. These functionalities anchor the Avalanche ecosystem's security, economic incentives, and decentralization.

These functionalities do not constitute AVAX as a "Utility Token" within the meaning of MiCAR. AVAX is not issued for access to specific goods or services by a service provider and is instead a general-purpose blockchain token. Accordingly, it is classified as an "Other Crypto-Asset" under Article 4(1)(6) MiCAR.

F.3 Planned Application of Functionalities

AVAX is already fully functional and integral to Avalanche's operations; there are no new planned functionalities for AVAX beyond its current roles, as those roles are fundamental and ongoing. It will continue to be used as the gas/fee token for all transactions on Avalanche's default chains, ensuring that network activity requires AVAX and that fees get burned. It will persist as the staking asset for validators (and delegators) to keep the network secure via Proof-of-Stake. AVAX will also remain the base asset for the Avalanche ecosystem's DeFi protocols and dApps (many Avalanche-based DeFi platforms use AVAX as a base trading or collateral asset), and for cross-network operations (like bridging assets or creating subnets).

As Avalanche evolves, AVAX may gain additional functions in governance if on-chain governance features are introduced (for example, a future where validators vote on protocol upgrades or parameter changes using their staked AVAX). However, these would be extensions of its security role rather than brand new categories of functionality. There are no announced plans to change how AVAX functions; instead, the focus is on expanding Avalanche's ecosystem (more subnets, more dApps) which naturally drives demand for AVAX's existing uses (fees and staking).

F.4 Type of white paper

OTHR

F.5 The type of submission

NEWT

F.6 Crypto-Asset Characteristics

Avalanche's AVAX token is a decentralized, permissionless blockchain token designed to facilitate high-speed transactions and network security. Key characteristics include:

Blockchain Platform: AVAX operates on Avalanche, a high-throughput, open-source distributed ledger platform. Avalanche's architecture, notably its combination of a DAG-based consensus for one chain and linear chains for others, enables the network to process transactions in parallel and achieve extremely fast finality.

Consensus Mechanism: Unlike Proof-of-Work (PoW) blockchains that require energy-intensive mining, Avalanche uses a novel Proof-of-Stake consensus protocol. Specifically, Avalanche's

consensus does not elect a single leader to produce blocks; instead, all validators participate in a repeated random sampling process to quickly agree on valid transactions. This protocol (often referred to as the Avalanche consensus or Snowball) is highly energy-efficient and can tolerate a high number of validators without slowing down.

Transaction Costs: Avalanche's network is designed to keep transaction fees low and predictable. The actual fee for a transaction depends on the operation's complexity and network congestion, but in practice fees on the C-Chain (for a basic transfer or ERC-20 token transfer) are often just a few ten-thousandths of an AVAX (for example, 0.001 AVAX or less, which, at typical prices, might be only a few cents USD). Because Avalanche implements a dynamic fee mechanism (similar to Ethereum's EIP-1559 model), during normal conditions the base fee remains low and is burned, and users may add a small priority fee (tip) if needed to get faster inclusion during rare congestion. This means even when the network is busy, fees adjust to maintain throughput while preventing spam.

Thanks to Avalanche's efficiency, microtransactions and high-volume use cases (like blockchain gaming transactions or many DeFi trades per second) are economically feasible, as fees are not a bottleneck. Additionally, because fees are burned rather than given to validators, every transaction effectively reduces AVAX supply, benefiting all holders in the long run. Thus, the fee structure aligns user activity with token value.

AVAX is not classified as a utility token under Article 3(5) MiCA, as it is not issued to provide digital access to specific goods or services from an identifiable service provider. It serves general protocol functions like fee payment and staking within Avalanche's infrastructure.

F.7 Commercial name or trading name

Avalanche

F.8 Website of the issuer

avax.network

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

2025-05-07

F.10 Publication date

2025-05-05

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

M3Z631TN4

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

No FFG-DTI is currently assigned to AVAX. This field will be updated upon issuance of a group identifier by the Digital Token Identifier Foundation or another competent authority, as per MiCA RTS Article 5.

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 AVAX do not acquire any specific contractual rights or legal claims against an issuer or anyone else by holding the token. AVAX is a decentralized network token, not a share or debt instrument; therefore, owning AVAX 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 AVAX 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 AVAX, the holder creates a transaction and signs it with their private key; to exercise the “right” to stake, the holder delegates their AVAX 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 AVAX, modifications in the “rights and obligations” sense mostly pertain to changes in the protocol rules of the AVAX network. Any changes to how AVAX works (for example, changes to staking yield, fee structure, or adding on-chain governance features in the future) would require a network upgrade. Avalanche’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

Avalanche's supply is governed by a predetermined schedule and a burn mechanism, not an on-demand adjustment protocol. There is no algorithmic peg or automatic rebase mechanism adjusting AVAX supply in response to price or external metrics. The only "adjustment" is the ongoing minting of new AVAX as staking rewards (which follows a formula and declines over time) and the burning of fees (which is usage-dependent). These are part of the protocol's normal operation rather than discretionary adjustments. In other words, Avalanche doesn't have a central bank-like entity that intervenes in supply; the supply changes only by code-defined processes.)

G.13 Supply Adjustment Mechanisms

Not applicable. (As above, aside from the coded inflation schedule and fee burn, there are no mechanisms in Avalanche that dynamically adjust supply based on triggers such as price fluctuations. No entity can arbitrarily mint or burn AVAX beyond what the protocol rules allow. Any change to those rules would require a network consensus upgrade. Thus, there is no active mechanism adjusting AVAX supply in reaction to market conditions – it's a transparent, fixed algorithmic process.)

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

G.19 Competent Court

Not applicable - As Avalanche (AVAX) 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

Avalanche uses its own proprietary distributed ledger technology, known collectively as the **Avalanche blockchain platform**. Avalanche is a decentralized and permissionless public ledger

system. Unlike single-chain blockchains, Avalanche's ledger is composed of multiple chains: primarily the X-Chain, P-Chain, and C-Chain, each optimized for specific tasks, yet all secured by the same validator set (the Primary Network). All Avalanche chains utilize the Avalanche consensus family and are maintained by a network of independent validator nodes around the world.

The **Exchange Chain (X-Chain)** is a directed acyclic graph (DAG) ledger that handles creation and exchange of assets (including AVAX) in a highly parallelizable way. It uses the Avalanche consensus to allow transactions to be processed in a non-linear order for maximum throughput. The X-Chain's ledger state consists of UTXOs (unspent transaction outputs), similar to Bitcoin's model but in a multi-asset context.

The **Platform Chain (P-Chain)** is a metadata blockchain that coordinates validators and subnets. It tracks active validators (who has staked AVAX), orchestrates new subnet creation, and manages staking (adding/removing validators and delegators, processing reward distribution after staking periods). The P-Chain uses a linear blockchain structure (consensus via Snowman, Avalanche's linear consensus protocol) since operations here need total ordering (e.g., who is a validator at what time).

The **Contract Chain (C-Chain)** is Avalanche's smart contract chain, which is an instance of the EVM (Ethereum Virtual Machine). It's essentially analogous to an Ethereum-like ledger (account-based, running Solidity smart contracts) but uses Avalanche's consensus for fast finality. The C-Chain allows developers to deploy smart contracts and dApps as they would on Ethereum, with the key differences being much faster confirmation times and different fee economics (fees in AVAX, partly burned).

Avalanche's DLT is **public** and **permissionless** – anyone can join as a validator by meeting the staking requirements, and anyone can submit transactions. The network's distributed nature is evidenced by its global validator distribution: as of 2025, validators are geographically spread across many countries and hosted on diverse infrastructure (cloud providers, data centers, and self-hosted servers). There is no central coordinating node or authority; consensus is achieved through the cooperative interaction of nodes. Blocks (on P-Chain and C-Chain) are produced quickly (C-Chain blocks, for example, are targeted at ~2 seconds per block) and the ledger is updated continuously without long delays. This gives Avalanche the feel of real-time transaction processing, unlike some older blockchains with noticeable block intervals. The ledger supports both simple payments and complex smart contract operations, making it a general-purpose DLT platform. Additionally, Avalanche's architecture allows for **subnets** – these are additional custom blockchains that can have their own ledgers and virtual machines, but must be validated by some subset of Avalanche validators. Each subnet can be considered its own distributed ledger, potentially permissioned or following different rules, but they all ultimately rely on Avalanche's Primary Network validators (who are staking AVAX) for security. This unique approach means Avalanche's technology isn't a single ledger but a **network of ledgers** all anchored by the AVAX token and Avalanche consensus. The primary distributed ledger (the set of Primary Network chains) is robust and continuously synchronized among nodes, ensuring consistency and security of AVAX transactions and state across the globe.

Avalanche Whitepaper: https://www.avalabs.org/whitepapers

Public block explorer: https://subnets.avax.network/

Avalanche Main repository: https://github.com/ava-labs

Avalanche Developer portal: https://www.avax.network/developers

H.2 Protocols and Technical Standards

Avalanche's technology stack incorporates a variety of protocols and standards:

Consensus Protocol: The core protocol is the Avalanche consensus, a novel family of meta-stable consensus algorithms (including "Snowflake," "Snowball," and "Avalanche" protocols for DAG-based

consensus, and “Snowman” for linear chain consensus). This protocol defines how validators repeatedly sample each other to quickly finalize decisions on transactions. Avalanche’s consensus is leaderless and quiescent (it doesn’t produce new messages when there are no transactions to process), making it highly efficient. It’s robust in asynchronous or partially synchronous network conditions and can achieve finality typically in 1–2 seconds after a transaction is gossip-ed to the network. Technical details: Avalanche consensus uses parameters like k (sample size) and α (quorum threshold) to determine decision confidence. These parameters are set such that the probability of a fork or inconsistency is astronomically low (far less than 10^-9).

Networking Protocol: Avalanche nodes communicate via a peer-to-peer network. The protocol uses a gossip protocol to propagate transactions and votes. Avalanche has been implemented using TCP and also can use UDP for certain message types. A custom networking stack (sometimes using QUIC, a UDP-based transport protocol) is used to reduce latency and manage congestion better than raw UDP. For example, Avalanche can use QUIC to handle high packet rates and to recover from lost packets – this was an improvement learned from networks like Solana which moved from pure UDP to QUIC to mitigate packet loss issues. Avalanche’s P2P layer ensures validators maintain connections and that messages (transactions, block proposals, votes) propagate quickly to all participants.

Cryptography Standards: Avalanche relies on well-established cryptographic standards. Accounts and keys on Avalanche (especially for the C-Chain which mirrors Ethereum) use the secp256k1 elliptic curve for public-private key cryptography (the same curve used by Bitcoin and Ethereum), and ECDSA for transaction signature authentication. The hashing algorithms used include SHA-256 and RIPEMD-160 (for address generation, similar to Bitcoin) on the X-Chain/P-Chain, and Keccak-256 for the C-Chain (due to EVM’s use of Keccak). Avalanche addresses on X-Chain and P-Chain are formatted in Bech32 with chain prefixes (like X-avax1...), whereas C-Chain uses the Ethereum-style hex addresses. These standards ensure compatibility with existing crypto tooling (e.g., hardware wallets that support secp256k1 and ECDSA can be used for AVAX). Additionally, Avalanche employs signature schemes and transaction serialization that are interoperable with Ethereum’s where relevant (on C-Chain), which is technically the Ethereum RPC standard for interfacing (so wallets like MetaMask can connect to Avalanche’s C-Chain by treating it like an Ethereum network).

Smart Contract Standards: On the C-Chain, Avalanche fully supports the Ethereum Virtual Machine and Ethereum’s smart contract standards (ERC-20 for fungible tokens, ERC-721 for NFTs, etc.). This means developers can deploy standard Ethereum contracts on Avalanche without changes. The RPC API exposed by Avalanche’s C-Chain uses the Ethereum JSON-RPC API, making it compatible with Ethereum development tools (Web3 libraries, Truffle/Hardhat, etc.). This adherence to Ethereum standards accelerates porting dApps to Avalanche and leverages the broad developer knowledge base.

Interoperability Protocols: Avalanche has a built-in bridging solution (the Avalanche Bridge) that follows certain cryptographic standards (it uses Intel SGX secure enclaves for key management and has its own relay protocol). While not part of the core consensus, it’s a key piece of Avalanche’s ecosystem enabling cross-chain asset transfers (like moving ERC-20 tokens from Ethereum to Avalanche as wrapped assets). The Avalanche Bridge adheres to standards like using chainID and ERC-20 compatibility for the assets it mints on Avalanche to represent bridged tokens.

Subnet Standards: For custom subnets, Avalanche defines a standard interface – each subnet’s blockchain must implement the Avalanche consensus API so that validators can run it. The Virtual Machines of subnets are pluggable; Avalanche’s generic VM interface allows developers to write blockchains in e.g. Go or other languages that fit the interface. The default VM (Avalanche’s AVM for the X-Chain and the EVM for the C-Chain) serve as reference implementations. This modular approach is part of Avalanche’s technical standards, enabling innovations like subnets with different VMs (there are already subnets running a Rust-based VM and others using modified EVMs for specific use cases).

Data Standards and Formats: Avalanche uses protobuf (Google Protocol Buffers) for some data serialization (especially in network messaging between nodes) to ensure efficiency and clarity in protocol implementation. It also uses JSON for API responses where applicable (for instance, the Avalanche Explorer and wallet APIs deliver JSON data about transactions and blocks). The consensus votes are not standardized beyond Avalanche’s internal protocol (they are essentially just

small messages validators send, not exposed to users), but block formats are standardized per chain (e.g., C-Chain blocks have Ethereum-like RLP encoding internally, X-Chain transactions have a custom serialization with fields for inputs/outputs, etc., defined in Avalanche's docs).

H.3 Technology Used

Avalanche leverages a range of established and cutting-edge technologies to deliver its performance:

Programming and Implementation: The primary Avalanche node software (AvalancheGo) is written in the Go programming language. Go was chosen for its strong concurrency support (important for handling many network messages and transactions in parallel) and memory safety. The codebase is open-source and available on GitHub, allowing third-party review. Ancillary tools (wallets, etc.) are written in languages like Typescript (for web wallets) and there's also a Rust implementation in development for certain components.

Cryptographic Algorithms: As mentioned, Avalanche uses secp256k1 elliptic curve cryptography for digital signatures on transactions (same curve as Bitcoin/Ethereum). Each Avalanche address corresponds to a secp256k1 public key (except contract addresses which are derived from keccak hashes in EVM). The hashing functions employed include SHA-256 (for many internal hashes) and KECCAK-256 (for EVM compatibility). Avalanche does not rely on exotic cryptographic primitives like zero-knowledge proofs or threshold cryptography in its base protocol; it sticks to battle-tested algorithms which can be executed quickly and verified by all nodes. This ensures that cryptographic operations are not a bottleneck in throughput.

Node Hardware and Optimization: Validators typically run Avalanche nodes on commodity servers. Avalanche's consensus is CPU-bound to some extent (processing many messages quickly), but it doesn't require specialized hardware like GPUs or ASICs. A typical recommended spec for an Avalanche validator node is a multi-core CPU (e.g., 8-core), 16 GB RAM, and an SSD for storage — these are modest requirements compared to some high-throughput systems that demand enterprise hardware. Avalanche nodes store the blockchain state (for C-Chain, it's similar to an Ethereum full node's storage, which can be tens of GB), and the performance of AvalancheGo has been optimized to handle rapid state read/writes (using database libraries like LevelDB or similar). Unlike Solana which offloads signature verification to GPUs, Avalanche currently handles cryptographic verification on CPU (which is sufficient given ECDSA verify is not extremely heavy, and Avalanche's throughput in practice is in the thousands TPS rather than tens of thousands that Solana targets with GPU help).

Network Engineering: Avalanche's Turbine-like protocol (not literally Turbine, but analogous concept) breaks transaction propagation into smaller shards via random sampling — so it's not flooding the entire network with each message, thus reducing bandwidth requirements. The team has implemented custom features like caching of repeated queries, efficient mempool (transaction pool) management to ensure nodes handle spikes gracefully, and pipelining of consensus voting and block proposal. Avalanche nodes also implement spam filtering and rate-limiting; if a node is bombarded with excessive messages from a peer, it can throttle or drop that peer. These networking safeguards are standard practice to ensure stability.

Data Handling: Avalanche uses a UTXO model on X-Chain and account model on C-Chain. For UTXO (X-Chain), it employs a database that can handle frequent UTXO creation and consumption. The P-Chain and C-Chain use more sequential data structures. To maintain performance, Avalanche nodes keep much of the working set in memory – for instance, UTXO sets or current validator sets – so that consensus queries (like checking whether a double spend exists, or whether a validator is valid) are O(1) or O(log n) in memory. Disk access is mostly for writing finalized data and for bootstrapping.

Parallelization: The Avalanche consensus allows a high degree of parallel processing because multiple transactions (especially on X-Chain) can be verified concurrently. AvalancheGo is built to utilize multiple CPU cores: network message handling, cryptographic verification, consensus voting routines, and block proposal can occur in separate goroutines (lightweight threads in Go). This means an Avalanche node can be processing different consensus decisions at once. On the C-Chain (which essentially follows a simpler linear path), parallelism is less about block production (only one block at a time) and more about verifying transactions within a block concurrently (the EVM execution itself is

mostly single-threaded in current geth-based implementations, which Avalanche inherits, but signature checks and mempool sorting can be parallel).

Storage and State Pruning: Avalanche has introduced state pruning for the C-Chain to control storage bloat (since not all history needs to be kept by every node, archival nodes aside). They also compress certain data (Avalanche uses CB58, a base58 with checksum, for encoding data in some contexts to shorten representation). Snapshots and fast sync modes are available: a new node can rapidly join by downloading an existing state rather than replaying every transaction since genesis, which is important for practicality as the network grows.

Security Audits and Formal Methods: The Avalanche protocol has been the subject of academic research (the consensus was peer-reviewed in academic papers when launched). The implementation AvalancheGo has undergone third-party audits for critical components. For example, auditing firms have reviewed the Avalanche Bridge smart contracts and the consensus code for vulnerabilities. Additionally, Avalanche's community bug bounty programs encourage independent researchers to find issues. While not fully formally verified, parts of Avalanche (like the consensus safety properties) have proofs in the original academic paper.

Integration with Infrastructure: Avalanche's design makes it relatively easy to integrate with existing blockchain infrastructure. For instance, block explorers (like Snowtrace, an Avalanche explorer by Etherscan) could be quickly set up by reusing Ethereum indexing tools due to the C-Chain's similarity to Ethereum. Hardware wallet support was quickly available (Ledger devices support AVAX) because the cryptography is standard. These practical tech choices (EVM, secp256k1, JSON-RPC) mean Avalanche technology can plug into wallets, exchanges, custody providers with minimal custom development, which has been crucial for adoption.

H.4 Consensus Mechanism

Avalanche Consensus (with Snowman Protocol for linear chains): Avalanche's consensus mechanism is a defining innovation of the network. It is a Byzantine fault-tolerant (BFT) consensus protocol that does not rely on a fixed leader or round-robin proposer. Instead, it uses a repeated random sampling process among validators to achieve agreement quickly and reliably. Below is an overview of how Avalanche's consensus works:

Random Subsample Voting: When a validator observes a new transaction (or block, in the context of Snowman), it polls a small, randomly chosen set of other validators about their preference (for example, whether they consider the transaction valid and preferable, especially if there are conflicting transactions like double-spends). Each validator it asks responds with its current preference. The querying validator then adopts the majority preference of those sampled. This process – querying a random subset and updating one's preference – is repeated in multiple rounds.

Probability and Finality: Unlike Nakamoto-style consensus (e.g., Bitcoin's PoW) which offers probabilistic finality (you wait for enough blocks to be confident), Avalanche consensus offers very fast and robust finality. Once a transaction is accepted by the network (meaning all honest validators have flipped to that preference and would require an implausibly large adversary to overturn), it is considered final. There is no fork continuation that could override it under normal operation. In practice, finality on Avalanche is on the order of ~1–2 seconds for most transactions. The consensus is leaderless, which means there isn't a specific validator whose turn it is to produce the next block that everyone must follow; instead, any validator can initiate the processing of a transaction, and the collective voting process naturally elects the history that is built upon.

Snowman – Linear Chain Consensus: Avalanche's generic consensus can work on a DAG (as in the X-Chain where transactions can be confirmed in parallel). For the linear chains (P-Chain and C-Chain, which produce blocks), Avalanche uses a variant called Snowman. Snowman is essentially the Avalanche consensus applied to blockchain blocks: validators sample each other to agree on the next block in a chain. Snowman inherits the properties of Avalanche (high throughput, BFT safety, quick finality) but enforces a total ordering of blocks (each new block has exactly one parent, forming a chain). In Snowman, validators collectively choose one proposer's block among possibly several

proposals, and finalize it. Because Avalanche is leaderless, there isn't an official single proposer – but in practice, nodes gossip block proposals and the network converges on one

Staking Weighted Voting: In Avalanche, not all validators are equal – their voting power is proportional to the amount of AVAX they have staked (weighted by stake). This means when sampling, responses are effectively weighted: a validator with more stake represents more "votes." However, sampling is random without replacement, so larger validators might be sampled more often on average across rounds but cannot single-handedly dominate unless they hold a truly huge fraction of stake. The system parameters are set so that an attacker would need to control a very large fraction of the total stake (significantly more than 1/3, typically something like > 50% in worst case) to even have a shot at consistently biasing samples to break the protocol's safety.

No Slashing – Incentive Alignment: Not directly part of consensus logic, but worth noting: Avalanche's consensus assumes honest majority and doesn't incorporate slashing in consensus decisions. Validators are assumed to either follow the protocol or be ignored if they diverge (a malicious validator's votes, if they consistently vote contrary to the majority, will statistically be outweighed by honest votes in samples; eventually, honest nodes will stop querying obviously non-conforming nodes).

H.5 Incentive Mechanisms and Applicable Fees

Avalanche's economic design incentivizes validators to secure the network and keeps fees efficient for users, aligning interests of participants:

Staking Rewards (Inflationary Rewards): Validators and delegators earn rewards in AVAX for participating in Avalanche's Proof-of-Stake consensus. The Avalanche protocol mints new AVAX tokens as rewards for validators at the end of their staking period. The reward rate is not fixed; it depends on network conditions, including the total amount staked and the duration of staking chosen by validators. Initially, Avalanche's annual staking reward rate was targeted around 7–12% in the early years to encourage broad participation. This rate will gradually decrease as more of the supply is distributed. Validators receive rewards proportional to their stake (including delegated stake), but to qualify, they must meet performance criteria: maintaining a high uptime (e.g., >80%) and responding correctly in consensus. If a validator is offline or fails to participate properly, they simply won't receive the full reward (or any reward). Delegators who stake through validators also earn a share of rewards (after the validator's commission)

Transaction Fees: Every transaction on Avalanche requires paying a fee in AVAX. The fee schedule varies by operation type and chain. On the C-Chain (EVM chain), Avalanche has implemented an EIP-1559-style fee mechanism: there is a base fee per gas (denominated in nAVAX, i.e., fractions of AVAX) that dynamically adjusts based on block usage, and there's an optional priority fee (tip) that users can include to get their transaction processed faster if the network is busy. The base fee portion of the transaction fee is burned (destroyed), and the priority fee (if any) is given to the block producer (validator) who includes the transaction.

No Slashing Penalties (Carrot vs Stick): As noted, Avalanche currently has no slashing for misbehavior. If a validator acts maliciously or doesn't perform, they simply miss out on rewards, but their staked AVAX is not forfeited to the network. This approach reduces risks for validators (accidental downtime won't cause loss of funds, just loss of reward) and encourages more participation.

Delegation and Uptime Requirements: Avalanche incentivizes decentralization through its delegation mechanics. Because a validator can only accept a certain maximum ratio of delegator stake relative to its own stake (currently, a validator's own stake must be at least 2% of the total stake it manages, meaning at most 50x delegation relative to self-stake), no single validator can just accumulate enormous amounts of delegations without limit.

Economic Security: The requirement to stake AVAX to validate ties the token value to network security. The more valuable AVAX is, the more costly it is to acquire the amount needed to attempt an attack (which would require a significant fraction of total stake). Also, since fees are paid in AVAX and

burned, higher usage of the network can create scarcity of AVAX, potentially boosting its value, which in turn increases the economic weight behind the consensus.

Developer and Ecosystem Incentives: Outside the protocol itself, the Avalanche Foundation has run programs like Avalanche Rush (an incentives program that allocated AVAX to bootstrap liquidity in DeFi applications on Avalanche) and Multiverse (incentives for new subnets and institutional use cases)

H.6 Use of Distributed Ledger Technology

True

H.7 DLT Functionality Description[2]

Avalanche is a decentralized, open-source Layer-1 blockchain platform developed by Ava Labs and launched in September 2020. It is designed to support fast, scalable, and secure decentralized applications (dApps) and smart contracts. Avalanche's architecture features three core blockchains:

X-Chain (Exchange Chain): Facilitates the creation and exchange of digital assets.

C-Chain (Contract Chain): Hosts smart contracts and is compatible with the Ethereum Virtual Machine (EVM), allowing developers to deploy Ethereum-compatible dApps.

P-Chain (Platform Chain): Manages network validators, staking, and the creation of subnets.

Avalanche employs a unique consensus mechanism known as the Avalanche Consensus Protocol, which combines aspects of classical consensus protocols and Nakamoto consensus. This protocol enables high throughput, low latency, and strong decentralization, processing thousands of transactions per second with near-instant finality. The platform's design allows for the creation of interoperable, customizable blockchains called subnets, catering to various use cases and regulatory requirements.

H.8 Audit

True

H.9 Audit Outcome[3]

Avalanche has undergone multiple security audits to ensure the robustness and reliability of its network. Prominent security firms such as Halborn, OpenZeppelin, and Least Authority have conducted audits on various components of the Avalanche ecosystem, including the core protocol, smart contracts, and bridge infrastructure. These audits have identified and addressed vulnerabilities, contributing to the ongoing security and stability of the platform. The Avalanche community maintains a repository of these audit reports, reflecting a commitment to transparency and continuous improvement in security practices.

Link for the audit reports:

https://support.avax.network/en/articles/5462273-has-the-avalanche-code-been-audited-where-are-the-audit-reports

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

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

I. PART I – INFORMATION ON RISKS

I.1 Offer-Related Risks

Market & Trading Risks: The admission of AVAX to trading on LCX (and its ongoing trading on various markets) exposes holders to typical market volatility. AVAX's price can be highly volatile, with rapid and significant fluctuations due to factors such as overall crypto market sentiment, macroeconomic developments, news specific to Avalanche or competing networks, and changes in demand for usage of the Avalanche platform. Investors could experience substantial gains or losses in a short period.

Liquidity risk is present: although Avalanche is among the larger crypto assets by market cap and generally has deep liquidity on major exchanges, extreme market conditions or regulatory actions could reduce liquidity. If liquidity were to dry up, holders might face difficulty selling large amounts of AVAX without moving the market price. Additionally, trading AVAX may sometimes be affected by slippage or wide bid-ask spreads during periods of market stress or low volume.

Regulatory Risk: The regulatory environment for crypto-assets like AVAX is evolving. While MiCA will provide a harmonized framework in the EU, there is a risk that certain jurisdictions could impose new restrictions or requirements on trading or holding tokens like AVAX.

Trading Platform Risks: When trading AVAX on any platform (including LCX), users face the operational and security risks of that platform. These include the risk of exchange downtime or outages (which could prevent timely trading or withdrawals), the risk of cyber-attacks.

Custodial Risk: If holders keep AVAX on an exchange or with a custodian, they rely on that third party's security and internal controls. There's a risk of loss if the custodian is hacked, mismanages funds, or faces insolvency. This is not directly related to the offering but is a risk of how one holds/trades the asset.

I.2 Issuer-Related Risks

Avalanche doesn't have an "issuer" risk in the classical sense, it's subject to ecosystem risks: the health, actions, and continuity of its core contributing organizations and individuals. Holders should understand that their investment's success partly rides on the continued development and adoption of Avalanche. A failure or major setback in development (or a fracture in the community consensus about direction) could impair the functionality and appeal of Avalanche, which would likely depress AVAX's value. Conversely, Avalanche's decentralization means no single failure can kill the project outright, but it can still be severely hindered by loss of community or developer support.

I.3 Crypto-Assets-Related Risks

Decentralization and Absence of Backing: AVAX is a decentralized digital asset with no physical backing or guaranteed value. Its value is purely determined by supply and demand on the market. Holders face the risk that AVAX could lose significant value or even theoretically drop to zero if market participants lose confidence or interest..

Market Volatility: As noted, AVAX's market price is volatile. Historically, crypto-assets of similar nature have experienced swings of over 50% in short timeframes (days or weeks). AVAX can be influenced by macro conditions (e.g., global economic uncertainty might cause broad crypto sell-offs).

Liquidity and Market Access: Although AVAX is traded on many exchanges, there is the risk that in certain jurisdictions access might be cut off (for example, if a country bans crypto trading, local exchanges would shut off AVAX markets).

Custodial/Security Risks for Holders: Holding AVAX requires management of private keys. If holders opt for self-custody, loss of private keys or seed phrases will result in permanent loss of those AVAX – there is no recovery mechanism due to the decentralized nature.

Network Usage and Utility Risks: The value of AVAX is tied to its utility in the Avalanche ecosystem (for fees, staking, etc.). If Avalanche usage grows, demand for AVAX likely grows; if usage stagnates or declines (say fewer transactions, fewer dApps choosing Avalanche), demand could fall.

Technical Risks of the Asset: AVAX's existence and supply are governed by code. While audited, there's a theoretical risk of bugs in the token economics (e.g., a bug that accidentally mints extra AVAX or locks up some supply) – this is very unlikely given the maturity of Avalanche, but not impossible in absolute terms.

Regulatory & Taxation: Holding and transacting AVAX can have tax implications (e.g., capital gains tax) depending on jurisdiction. Changes in tax law or interpretation for crypto assets could impose unexpected obligations on holders (like needing to report and pay tax on staking rewards or every time they use AVAX).

Smart Contract and Ecosystem Risks: Because Avalanche supports smart contracts, AVAX holders often will use AVAX in DeFi protocols (e.g., to provide liquidity or as collateral).

Network Security and Consensus Risks: Avalanche's security relies on economic assumptions; if an attacker somehow gained control of a significant portion of AVAX (through collusion or purchasing a large amount), they might attempt to disrupt the network.

Quantum Computing Risk: Like most public blockchains, Avalanche's cryptography (secp256k1) could be vulnerable to a sufficiently powerful quantum computer in the future. If quantum computers advanced to the point of breaking ECDSA, an attacker could potentially derive private keys from public keys (affecting addresses that have made transactions and thus revealed a public key). This is a long-term risk (quantum computers are not there yet) and the crypto industry is monitoring it. Avalanche, like others, would likely plan an upgrade to quantum-resistant cryptography if that threat became imminent. However, the risk exists that technology changes could necessitate complex transitions, and any uncertainty there can impact value.

I.4 Project Implementation-Related Risks

Implementing a cutting-edge blockchain project like Avalanche and achieving its intended vision comes with several risks:

- Technical Development Challenges: Avalanche aims to continually improve its protocol (for example, enhancing performance, adding features like new VM support for subnets, etc.). There is a risk that some planned improvements take longer than expected or encounter technical roadblocks.

- Scalability and User Growth: Avalanche's design includes subnets as a path to scalability. If subnet adoption does not materialize (i.e., few projects create their own subnets, and instead everyone congests the C-Chain), Avalanche might face scalability pressure on the C-Chain just like Ethereum did, leading to higher fees and slower performance than advertised.

- Adoption and Ecosystem Risk: Avalanche's success depends on attracting developers and users – i.e., a thriving ecosystem of dApps (DeFi, gaming, NFTs, enterprise use-cases). There is competition from many other layer-1 and layer-2 networks, some of which have larger development communities or more aggressive incentive programs.

- Validator Participation Risks: Avalanche relies on a broad set of validators for security. If running a validator became economically unappealing (for instance, if AVAX price dropped so much that rewards no longer cover costs, or if hardware requirements grew making it expensive to run a node, or regulations discouraged individuals from running nodes), the number of validators could shrink.

- Regulatory and Compliance Implementation: As Avalanche grows (particularly with institutional adoption of subnets), it enters realms where regulatory compliance becomes important (for example, KYC on certain subnets, or ensuring OFAC compliance for validators perhaps). Implementing these in a decentralized network is tricky and could create friction between the open, permissionless ethos and regulatory pressures.

- Forks and Network Upgrades: While covered under governance risk, it's worth reiterating: if Avalanche's community cannot agree on major changes (e.g., hypothetically deciding whether to decrease the minimum stake, or how to handle a technical change), it could lead to a network split.

- Security Threats: Avalanche could face novel security threats. Though the consensus is considered secure, all complex software can have bugs. A critical bug in Avalanche consensus or economics (for example, a bug that allows double spending or minting extra AVAX) would be very damaging.

- Quantum Risk (Long-term Implementation): While a distant concern, if quantum computing risk became urgent, Avalanche would need to implement quantum-resistant cryptography (like new signature schemes).

I.5 Technology-Related Risks

Network Security and Attack Risks: Avalanche's consensus is robust against known attacks given honest supermajority, but as with any distributed system, new theoretical attacks could emerge. For instance, an adversary might try to exploit the randomness of sampling – perhaps by creating Sybil nodes to get sampled more often (Avalanche mitigates Sybil via staking requirement, but if an attacker acquires enough AVAX, they could run many nodes).

Software Bugs: Avalanche's implementation (AvalancheGo) could contain undiscovered bugs. A critical bug might allow an attacker to crash nodes (denial of service), or worse, create a situation of inconsistent state. For example, a bug in signature verification or UTXO handling could allow a malicious transaction to slip through validation on some nodes but not others, leading to a consensus divergence. Although testing is extensive, one cannot guarantee the absence of all bugs. Past instances in other networks.

Validator Centralization & Infrastructure: Avalanche, like many networks, has a portion of its validators running on cloud providers (e.g., AWS, Google Cloud). If one major provider hosting many Avalanche nodes had an outage or decided to block Avalanche-related traffic (imagine a scenario where AWS service to many crypto nodes is interrupted), a significant chunk of validators might go offline simultaneously.

RPC and Ecosystem Tools: Avalanche's network relies on RPC nodes for dApps to interface. If those RPC endpoints (like public ones offered by Ava Labs or third parties) have issues, users might perceive the network as "down" even if core consensus is fine. For example, there have been instances in other chains where the blockchain was working but explorers or RPC APIs were down, confusing users. Avalanche has many third-party RPC providers, which mitigates this.

Interoperability and Bridge Risks: Avalanche's ecosystem connects to others via bridges (especially to Ethereum). Bridge hacks are a common risk in crypto – if the Avalanche Bridge (which secures assets like tokenized ETH, USDC, WBTC on Avalanche) were compromised, a lot of value on Avalanche could vanish or be in limbo. While that doesn't directly break Avalanche.

Quantum Computing: Expanding on the quantum threat: Avalanche uses secp256k1 for signatures, which could be broken by a sufficiently advanced quantum computer running Shor's algorithm. The timeline for that is likely many years away, and Avalanche shares this risk with Bitcoin, Ethereum, and many others.

Competition and Technological Relevance: Avalanche must keep its technology updated to remain competitive. If a new blockchain tech emerges that dramatically outperforms Avalanche (say, an order of magnitude more scalable or fundamentally more secure).

I.6 Mitigation Measures

Avalanche's developers, community, and related entities have proactively undertaken various measures to mitigate the aforementioned risks and strengthen the project's resilience:

Ongoing Network Upgrades & Stability Improvements: The Avalanche core development team (Ava Labs) has a track record of quickly addressing issues and improving performance. For example, after periods of heavy network usage that revealed bottlenecks, the team implemented optimizations. They continuously refine the consensus and networking code to reduce latency and increase throughput. One specific improvement: Avalanche introduced dynamic fee adjustments (similar to Ethereum's EIP-1559 mechanism) to better handle congestion – this ensures that if the network is spammed, fees will rise to deter spam, thus protecting the network's throughput for genuine transactions. Additionally, Avalanche can adopt protocols like QUIC (a reliable transport over UDP) to improve how nodes handle large volumes of messages, preventing minor packet losses from causing slowdowns

Quantum Resistance Planning: The Avalanche community is aware of the eventual need for quantum-resistant cryptography (even if it's likely a decade out). Though not urgent, the general mitigation strategy in the crypto industry is known.

Regulatory Engagement and Clarity: On the legal/regulatory front, the Avalanche Foundation has been proactive in engaging with regulators and policymakers to clarify AVAX's status and the nature of the Avalanche network. Notably, when US regulators (SEC) indicated at one point that certain tokens might be securities, the Avalanche Foundation publicly pushed back against classifying AVAX as a security, arguing it is a utility token for a decentralized network

Ecosystem and Developer Support: The Avalanche Foundation has dedicated significant resources to foster a strong ecosystem, which mitigates the risk of lack of adoption. Through programs like Avalanche Rush (over $180M in incentives) and multitudes of hackathons and grants, they bootstrap usage and applications on Avalanche. These measures have brought many DeFi projects, NFT platforms, and even institutional projects onto Avalanche.

Performance Monitoring and Contingency Plans: Avalanche's team monitors network health closely (metrics like transaction throughput, time-to-finality, validator performance). If any anomaly appears (like consensus slowing or nodes dropping), they investigate immediately. They also maintain close communication with the validator community via channels like Discord, so if validators experience issues, developers hear about it quickly. There are contingency plans for various scenarios.

Insurance and Funds Safety: While not something Avalanche can directly ensure at a protocol level, the ecosystem has seen development of insurance protocols and safer custody solutions for users (e.g., InsurAce and other crypto insurance platforms offer policies that can cover smart contract hacks on Avalanche, and Fireblocks/Copper provide secure custody for institutional holders).

Community Governance and Transparency: Avalanche governance (though mostly off-chain and informal) emphasizes transparency. The Foundation shares information on token allocations, vesting, and any incident post-mortems publicly.

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 AVAX token operates on the Avalanche network, which leverages a combination of Proof-of-Stake (PoS) and the Avalanche consensus protocol—a model designed to be significantly more energy-efficient than traditional Proof-of-Work (PoW) systems. Rather than depending on high-powered mining operations, Avalanche achieves consensus through sub-sampled voting among validators, which minimizes computational intensity. However, it is important to emphasize that this does not imply a net reduction of energy consumption or environmental impact in absolute terms. Rather, it reflects a comparatively less burdensome framework in terms of energy use.

In line with MiCA's regulatory requirements for climate and environmental disclosure, Avalanche reports key sustainability indicators based on network activity and infrastructure. According to the latest available estimates, the Avalanche network's total annual energy consumption is approximately 844,800.82200 kWh, with emissions metrics reflecting the operation of validator nodes and underlying infrastructure.

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	Avalanche
S.4 Consensus Mechanism The consensus mechanism, as reported in field H.4	The Avalanche blockchain network employs a unique Proof-of-Stake consensus mechanism called Avalanche Consensus, which involves three interconnected protocols: Snowball, Snowflake, and Avalanche.Avalanche Consensus Process 1. Snowball Protocol: o Random Sampling: Each validator randomly samples a small, constant-sized subset of other validators. Repeated Polling: Validators repeatedly pollthe sampled validators to determine the preferred transaction. Confidence Counters: Validators maintain confidence counters for each transaction, incrementing them each time a sampled validator supports their preferred transaction. Decision Threshold: Once the confidencecounter exceeds a pre-defined threshold, the transaction is considered

	accepted. 2. Snowflake Protocol: Binary Decision: Enhances the Snowball protocol by incorporating a binary decision process. Validators decide between two conflicting transactions. Binary Confidence:Confidence counters are used to track the preferred binary decision. Finality: When a binary decision reaches a certain confidence level, it becomes final. 3. Avalanche Protocol: DAG Structure: Uses a Directed Acyclic Graph (DAG) structure to organize transactions, allowing for parallel processing and higher throughput. Transaction Ordering: Transactions are added to the DAG based on their dependencies, ensuring a consistent order. Consensus on DAG: While most Proof-of-Stake Protocols use a Byzantine Fault Tolerant (BFT) consensus, Avalanche usesthe Avalanche Consensus, Validators reach consensus on the structure and contents of the DAG through repeated Snowball and Snowflake.
S.5 Incentive Mechanisms and Applicable Fees Incentive mechanisms to secure transactions and any fees applicable, as reported in field H.5	Avalanche uses a consensus mechanism known as Avalanche Consensus, which relies on a combination of validators, staking, and a novel approach to consensus to ensure the network's security and integrity. Validators: Staking: Validators on the Avalanche network are required to stake AVAX tokens. The amount staked influences their probability of being selected to propose or validate new blocks. Rewards: Validators earn rewards for their participation in the consensus process. These rewards are proportional to the amount of AVAX staked and their uptime and performance in validating transactions. Delegation: Validators can also accept delegations from other token holders. Delegators share in the rewards based on the amount they delegate, which incentivizes smaller holders to participate indirectly in securingthe network. 2. Economic Incentives: Block Rewards: Validators receive block rewards for proposing and validating blocks. These rewards aredistributed from the network's inflationary issuance of AVAX tokens. Transaction Fees: Validators also earn a portion of the transaction feespaid by users. This includes fees for simple transactions, smart contract interactions, and the creation of new assets on the network. 3.

	Penalties: Slashing: Unlike some other PoS systems, Avalanche does not employ slashing (i.e., the confiscation of staked tokens) as a penaltyfor misbehavior. Instead, the network relies on the financial disincentive of lost future rewards for validators who are not consistently onlineor act maliciously. Uptime Requirements: Validators must maintain a high level of uptime and correctly validate transactions to continue:earning rewards. Poor performance or malicious actions result in missed rewards, providing a strong economic incentive to act honestly. Fees on the Avalanche Blockchain 1. Transaction Fees: Dynamic Fees: Transaction fees on Avalanche are dynamic, varying based on network demand and the complexity of the transactions. This ensures that fees remain fair and proportional to the network's usage. Fee Burning: A.portion of the transaction fees is burned, permanently removing them from circulation. This deflationary mechanism helps to balance the inflation from block rewards and incentivizes token holders by potentially increasing the value of AVAX over time. 2. Smart Contract Fees:Execution Costs: Fees for deploying and interacting with smart contracts are determined by the computational resources required. Thesefees ensure that the network remains efficient and that resources are used responsibly. 3. Asset Creation Fees: New Asset Creation: There are fees associated with creating new assets (tokens) on the Avalanche network. These fees help to prevent spam and ensure that only serious projects use the network's resources.
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	844800.82200 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	0.00000 kgCO2e per transaction

Average GHG emissions (scope 1 and scope 2) per validated 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.