MiCA White Paper

Across Protocol (ACX)

Version 1.0
August 2025

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

Purpose: seeking admission to trading in EEA.

Prepared and Filed by LCX.com

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

LCX is voluntarily filing a MiCA-compliant whitepaper for Across Protocol (ACX), even though ACX 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, ACX 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.ACX functions as the token of the Across Protocol – a decentralized cross-chain bridging platform that enables fast, secure interoperability between blockchains.

This document provides essential information about ACX's characteristics, risks, and the framework under which LCX facilitates ACX-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).

00 TABLE OF CONTENT

01 DATE OF NOTIFICATION

2025-09-01

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

Across Protocol's native crypto-asset, ACX, is a token that powers the Across cross-chain bridge ecosystem. ACX is primarily used to govern the protocol (holders can vote on proposals and treasury management) and to incentivize participants in the network [OBJ]. Liquidity providers and relayers earn ACX rewards for facilitating cross-chain transfers, aligning network security and performance with token distribution [OBJ]. Holding ACX may enable participation in certain on-chain activities (such as voting on upgrades or parameter changes via the Across DAO), but it confers no ownership rights in a legal entity, nor any entitlement to profits, dividends, or guaranteed returns. ACX does not represent equity or debt in any company; its value is derived solely from its technical and governance functions within the Across Protocol and the demand for its use in that ecosystem.

09 Not applicable

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

There is no new public offering of ACX tokens – the token is already created and distributed. Instead, this document is prepared in the context of admission to trading of ACX on a regulated crypto-asset trading platform (LCX). LCX AG, as a Liechtenstein-based regulated exchange operator, is facilitating the listing and trading of ACX in compliance with MiCA. LCX is not the issuer of ACX and does not control its supply; LCX's role is limited to providing a trading venue and custody services for the token in a compliant manner. This white paper is being published voluntarily to provide transparency and standardized information to investors regarding ACX's characteristics, given its listing on the LCX exchange. Since ACX is already in circulation and traded (including on decentralized exchanges following its creation), this admission does not involve any new token sale or fundraising. The trading of ACX on LCX will occur under market conditions – prices determined by supply and demand in the market. LCX supports trading pairs for ACX (e.g., ACX/EUR) to provide liquidity for participants. By issuing this MiCA-compliant white paper and notifying the Liechtenstein Financial Market Authority (FMA), LCX ensures that trading of ACX on its platform adheres to the new regulatory standards for investor protection and disclosure.

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 (ACXkapital) 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

Risk Labs Foundation (“Risk Labs”)

B.3 Legal Form

Foundation Company limited by guarantee (non-profit foundation company incorporated under Cayman Islands law)

B.4 Registered Address

c/o Ogier Global (Cayman) Ltd., 89 Nexus Way, Camana Bay, Grand Cayman, KY1-9007, Cayman Islands

B.5 Head Office

23 Lime Tree Bay Avenue, Governor’s Square, P.O. Box 10176, Grand Cayman, KY1-1002, Cayman Islands

B.6 Registration Date

29 June 2018

B.7 Legal Entity Identifier

Not applicable

B.8 Another Identifier Required Pursuant to Applicable National Law

Cayman Islands Registration Number: 345259 (as a Foundation Company)

B.9 Parent Company

Not applicable

B.10 Members of the Management Body

- Hart Lambur – Co-Founder and Director of Risk Labs (CEO)
- Allison Lu – Co-Founder of Risk Labs (Advisory role)
- Matt Rice – Director (CTO of Risk Labs Foundation)

B.11 Business Activity

Risk Labs Foundation is a non-profit entity dedicated to developing and maintaining open-source blockchain protocols, notably the Across Protocol (a cross-chain bridge) and the UMA protocol (an optimistic oracle and synthetic asset platform).

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 ACX (ACX) to enhance transparency, regulatory clarity, and investor confidence. While ACX 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 ACX 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

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ensuring compliance with AML and KYC regulations. LCX also supports token placements, marketing crypto-assets on behalf of offerors.

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- 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

Across Protocol

D.2 Crypto-Assets Name

Across Protocol Token

D.3 Abbreviation

ACX

D.4 Crypto-Asset Project Description

Across Protocol is a decentralized cross-chain bridging platform launched in November 2021 (with its token ACX launched in November 2022) that enables fast, low-cost transfers of assets between Ethereum and various Layer-2 networks and sidechains [obj] [obj]. The project is built on an “intents-based” interoperability architecture, meaning users specify desired cross-chain actions (intents) and the protocol fulfills them via a combination of liquidity pools, relayers, and an optimistic oracle for security [obj] [obj]. Across operates with a single-sided liquidity pool on Ethereum: liquidity providers deposit assets into a central pool on Ethereum mainnet, which efficiently supplies liquidity for transfers to any supported chain [obj]. When a user initiates a transfer from one chain to another, competitive relayers step in to bridge the funds; a relayer will advance the funds on the destination chain almost immediately, enabling transfers that often complete in under minutes [obj]. This design yields average cross-chain transfer times under 1 minute and fees as low as ~$1 for bridging 1 ETH, based on empirical data [obj].

To ensure security, Across leverages UMA’s optimistic oracle system: after a relayer claims to have delivered funds on the target chain, there is a challenge period during which anyone (typically UMA’s oracle participants) can dispute a fraudulent claim [obj]. If no valid dispute occurs, the claim is confirmed and the relayer is reimbursed from the liquidity pool on Ethereum; if a dispute arises, UMA’s oracle voters determine the correct outcome, requiring only one honest actor to catch wrongdoing [obj]. This optimistic verification mechanism provides robust security without the heavy overhead of on-chain validation for every transfer.

Across Protocol’s architecture is designed for capital efficiency and scalability. By consolidating liquidity in one mainnet pool, it avoids fragmenting liquidity across every pair of chains, thereby offering deeper liquidity and better rates for users than many traditional bridges [obj] [obj]. The protocol has evolved through multiple versions: Across v1 demonstrated the viability of optimistic bridging (launched October 2021), v2 (June 2022) expanded its capabilities and performance [obj] [obj], and v3 (February 2024) introduced the first “intents-based” architecture with a Universal Bridge Adapter that allows connecting to any EVM-compatible chain quickly [obj].

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

The ACX project is a collaborative effort involving the core developers, the issuing foundation, and a decentralized community of node operators and users. Key parties include:

Full Name	Business Address	Function
Hart Lambur (Risk Labs)	Cayman Islands	Co-Founder of Across; CEO of Risk Labs

Allison Lu (Risk Labs)	Cayman Islands	Co founder (Risk Labs)
Risk Labs Foundation	Cayman Islands	Core development organization
Across DAO (ACX Token Holders)	Global	Decentralized governance body
Independent Relayers & LPs	Global	Protocol participants – Provide bridging liquidity and execute cross-chain transfers in practice, ensuring the system's functionality and performance

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 Across Protocol Token (ACX) to enhance transparency, regulatory clarity, and investor confidence. While ACX 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 ACX 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 ACX in a compliant manner. It further supports the broader market adoption and integration of ACX 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 August 2025, approximately 334.4 million ACX tokens are freely circulating out of a fixed total supply of 1,000,000,000 ACX [OBJ]. ACX’s supply is capped at 1 billion tokens – no further tokens will be created. The non-circulating portion (~665.6 million ACX) is held or locked as follows: 250 million ACX (25% of supply) reside in the Across DAO treasury, controlled collectively by ACX holders via governance votes [OBJ]; 195 million ACX (~19.5%) are held by Risk Labs Treasury for the ongoing support of the protocol (with ~150 million of those allocated to team members under 4-year vesting schedules, and the remainder reserved for future team and potential strategic sales) [OBJ] [OBJ]; 110 million ACX (11%) were reserved for “Success Token” seed investors at launch – those tokens were subject to a structured investment contract

expiring on 30 June 2025 [OBJ] (the outcome of which is that either those investors have claimed ACX or the tokens remain with the DAO if conditions were unmet); and approximately 110.6 million ACX (~11.06%) were allocated to other early investors and partners, under various lock-up agreements [OBJ]. All remaining ACX tokens beyond these allocations (about 33.44% of the supply, as noted) are in public hands and tradeable [OBJ]. No additional token issuance beyond the 1 billion will occur, and ACX has no inflation.

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

ACX/EUR

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

ACX is widely traded on numerous cryptocurrency exchanges globally. ACX 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 ACX trading (pair ACX/EUR). To access ACX 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

For admission to trading of ACX on LCX, the applicable law is Liechtenstein law, in accordance with MiCA and EU regulations. For decentralized use of ACX on Ethereum or other networks, applicable law depends on the user's jurisdiction. Any disputes related to services provided by LCX shall fall under the jurisdiction of the Courts of Liechtenstein.

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

ACX serves two primary functions within the Across Protocol ecosystem: governance and incentivization [OBJ]. As a governance token, ACX enables holders to participate in the decentralized decision-making process – they can propose changes, vote on protocol upgrades or parameter adjustments, and steer the use of the DAO treasury. This gives ACX holders influence over the future development and policies of the Across Protocol (such as whether to introduce new features, adjust fees, or form partnerships). Importantly, these governance rights are exercised on-chain via proposals and Snapshot votes, and are technical in nature (they do not equate to ownership of a legal entity, see G.1).

In its incentive role, ACX is used to reward key participants who contribute to the protocol's functioning and growth [OBJ]. For example, liquidity providers that supply capital to Across's bridge pool earn ACX tokens as rewards over time, compensating them for the service of providing liquidity. Relayers who execute cross-chain transfers may also be granted ACX rewards or fee rebates, aligning their interests with the network's success. Additionally, ACX has been distributed through community programs (like referral programs, airdrops to early users, etc.) to encourage adoption and spread network ownership [OBJ] [OBJ]. These incentive mechanisms bootstrap the network's usage and decentralization.

Beyond governance and rewards, ACX does not have inherent consumptive utility (e.g., it's not used to pay transaction fees on Across – bridging fees are paid in the asset being bridged). It also does not automatically entitle holders to any financial return (no built-in dividend or interest). However, the community could vote to introduce a fee switch that would, for example, direct a portion of protocol fees to ACX stakers or the treasury – but as of now, that is only a potential governed by ACX holders' decisions [OBJ].

F.3 Planned Application of Functionalities

ACX is already fully integrated into the Across Protocol's operations, and its current functionalities (governance and incentives) are actively in use. Governance is live – from the token's launch, ACX holders have been able to initiate and vote on Across DAO proposals (governance was "turned on" at token launch) [OBJ]. The governance process follows a structured lifecycle: ideation on forums, off-chain Snapshot voting, and on-chain execution via timelocked contracts.

For the incentive function, ACX distribution programs are ongoing but diminishing according to the initial token emission schedule. For example, liquidity mining rewards and referral rewards (described in the initial allocation) have been or are being distributed to bootstrap usage [OBJ] [OBJ]. Over time, as those programs either achieve their goals or run out of allotted tokens, ACX's incentive use will shift from distribution of new tokens to possibly using existing tokens (e.g., the DAO might vote to allocate some treasury ACX to new incentive programs, or to introduce staking). ACX's incentive application will thus adapt to the protocol's needs: one foreseeable application is governance-driven staking.

F.4 Type of white paper

OTHR

F.5 The type of submission

NEWT

F.6 Crypto-Asset Characteristics

ACX is a fungible digital token (ERC-20) on the Ethereum blockchain [obj]. It conforms to the ERC-20 standard, meaning it has 18 decimal places, and supports standard functions like transfer, approve, and transferFrom – ensuring broad compatibility with Ethereum wallets, exchanges, and smart contracts. Key characteristics include:

- Supply: Fixed at 1,000,000,000 ACX. All tokens were created at the inception of the token contract. The contract does not allow minting above this cap, and as per the token's code and governance structure, no additional supply can be introduced without an update that token holders would have to approve (and there's currently no intention or mechanism to increase supply) [obj]. There is also no programmed token burn mechanism in effect (circulating supply changes only through allocations unlocking or potential burns via governance if ever decided, but none are scheduled).
- Consensus & Settlement: ACX transactions rely on Ethereum's network for confirmation and finality. After Ethereum's Merge upgrade, it operates on Proof-of-Stake consensus, which provides security and fast (~12 seconds) block times. ACX itself doesn't have a standalone consensus mechanism – it inherits Ethereum's. Transfers of ACX are validated by Ethereum validators and achieve finality typically within a few minutes (after a few block confirmations on Ethereum).
- Contract Address: The ACX token contract is deployed at Ethereum address 0x… (to be provided) [obj]. This address uniquely identifies ACX on Ethereum and is used by exchanges and users to reference the token. The contract is a standard OpenZeppelin ERC-20 implementation with ownership capabilities.
- Token Admin/Ownership: At launch, the token contract ownership (admin privileges) was renounced or transferred to the DAO's control (per Risk Labs, after distribution, ACX's smart contract was likely renounced to ensure decentralization [obj] [obj]). This means no single admin can arbitrarily change token parameters or freeze balances. The token is fully controlled by code – all special functions (if any) are either disabled or time-locked under DAO control. (Cyberscope's analysis confirms that ACX's contract cannot mint new tokens, cannot pause or blacklist addresses, and ownership has been renounced [obj] [obj].)
- Interoperability: ACX, being ERC-20, can be bridged to other networks. In practice, most ACX circulation is on Ethereum mainnet, but with Across's own bridging, there is potential to have ACX representations on Layer-2 networks for governance or incentive purposes (e.g., if the community wanted, ACX could be made available on Arbitrum or Optimism via a bridge). As of now, ACX's main liquidity and use remain on Ethereum. If bridged, typically a custodian contract on Ethereum locks ACX and a pegged token is issued on the target chain.
- Compatibility: ACX can interact with Ethereum's smart contracts. For instance, it can be deposited into DeFi protocols (if listed, e.g., as collateral on a lending platform or in liquidity pools on Uniswap, etc.). It adheres to Ethereum's token standards which ensure that any service supporting ERC-20 tokens can support ACX easily.

No Native Staking/Validation Role: Unlike some network tokens, ACX is not used to validate a blockchain (it's not a staking token for consensus). Its staking, if any, is for governance weight or reward purposes, not for running consensus.

Security and Technical Audits: The ACX token contract and Across Protocol contracts have been audited for security (details in Part H). The token's code has no known vulnerabilities and has standard protections (e.g., using SafeERC20 library for transfers in protocol interactions). No exploits have occurred on the token itself. Key security features: it's not upgradeable (no proxy pattern, as ownership is renounced), which eliminates certain risks but also means any change would require deploying a new token (not anticipated). There are no pause functions or backdoors; ACX is as secure as Ethereum itself in terms of token integrity.

Blockchain Footprint: ACX transactions consume gas on Ethereum. After Ethereum's switch to PoS, gas fees are lower and the environmental impact is minimal (see Part J on sustainability).

ACX uses standard 18 decimal precision and follows Ethereum's formatting for addresses and logs (making it trackable via block explorers like Etherscan).

F.7 Commercial name or trading name

ACX

F.8 Website of the issuer

https://across.to/

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

2025-10-01

F.10 Publication date

2025-10-01

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

Not available (none currently assigned)

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 ACX do not acquire any specific legal rights or enforceable claims against an issuer or any other party simply by holding the token [OBJ]. ACX does not represent a share in a company, a debt instrument, or a contractual entitlement; rather, it is a decentralized network token. Therefore, holding ACX does not grant the holder traditional rights such as dividends, profit-sharing, interest, ownership of assets, or repayment guarantees. There is also no promise of token buy-backs or any form of capital protection.

The primary “rights” of ACX holders are governance rights within the Across Protocol’s DAO and the ability to participate in on-chain activities:

Governance Voting: ACX holders have the right to vote on proposals that affect the protocol (such as changes to parameters, use of treasury funds, new feature implementations). This is a technical right executed through the Snapshot voting system and on-chain proposal contracts [OBJ]. It is not a contractual or statutory right under corporate law, but it is a real influence on the protocol’s development encoded in smart contracts. It’s important to note this right is proportionate to the amount of ACX held (one token, one vote typically).

Protocol Usage: ACX can be used within the Across ecosystem (for example, staked in governance or reward contracts if available) – these are voluntary actions a holder may take to utilize their tokens. Also, if the DAO activates certain features (like a fee switch that rewards ACX stakers), holders who meet any required conditions (e.g., staking ACX) could gain the right to a share of those fees. As of this writing, no such profit-sharing mechanism is active, so ACX holders’ main usage right is to use the Across Protocol and related DeFi protocols freely with their tokens.

Transferability: Holders have the right to transfer ACX peer-to-peer or via exchanges at their discretion (subject to network fees and any applicable legal restrictions). There is no lock-up on ACX in general circulation – once you own it, you may hold or transfer it as you wish. This also implies the obligation to manage one’s own token security; if you self-custody, you must keep your private keys safe, as the protocol or issuer cannot recover lost tokens.

No Redemption/Claim: ACX holders cannot redeem ACX from the issuer for any underlying asset or guaranteed value (unlike, say, stablecoin holders could redeem for fiat). There is no issuer obligation to exchange ACX for fiat or anything else. ACX’s value is purely market-driven.

Obligations: There are no mandatory obligations imposed on token holders. Buying or holding ACX does not require them to use the network, vote, or do anything. However, if a holder chooses to participate in governance, they are implicitly expected to do so in good faith for the community’s benefit (though this is more of a community norm than a binding obligation). Holders must also comply with relevant laws (e.g., not use ACX for illicit purposes, respect any sanctions, etc.), but those are general legal obligations, not token-specific.

Potential Tax Obligations: While not a right or obligation attached to the token by its terms, holders should be aware that owning or trading ACX could trigger tax obligations (like capital gains tax) per their jurisdiction’s laws. It is the holder’s responsibility to comply with such obligations.

G.2 Exercise of Rights and Obligation

ACX token holders do not possess traditional contractual or legal rights commonly associated with financial instruments, such as enforceable claims to dividends or statutory voting rights. Instead, interactions involving ACX are executed entirely through blockchain-based mechanisms. For example, holders may choose to participate in governance processes by using supported platforms like Snapshot or on-chain modules, where voting power is typically proportional to the token balance in the user’s self-custodied wallet. These interactions involve

signing messages or transactions using the holder's private key. Beyond governance, holders can transfer or trade ACX by initiating blockchain transactions or using exchange interfaces, thereby exercising control over their tokens. Where protocol-level features exist—such as locking or committing ACX to smart contracts for participation in incentive programs or governance staking—holders engage voluntarily by interacting directly with the protocol's smart contracts. All actions are facilitated through decentralized infrastructure without reliance on off-chain registration or physical documentation. There are no obligations imposed on ACX holders, and participation in any on-chain activity is entirely discretionary. Maintaining control over ACX tokens simply requires securing access to the associated wallet.

G.3 Conditions for Modifications of Rights and Obligations

Since the ACX token does not confer formal contractual or legal rights to holders, there are no predefined terms that can be modified in a traditional legal sense. However, modifications to how ACX operates within the Across Protocol may occur through decentralized governance mechanisms. Changes to protocol features—such as introducing staking functionality or enabling protocol-level fee-sharing—are subject to community proposals and require approval from token holders, typically through a structured governance process that includes quorum and majority thresholds. These changes are executed through code updates or the deployment of new smart contracts, rather than by amending legal agreements. The ACX token smart contract itself is immutable and not designed for upgrades; critical properties such as total supply are fixed at the code level. Any hypothetical changes, such as migration to a new token contract, would require deployment of a new asset and a coordinated distribution, subject to decentralized approval. Risk Labs or any individual entity has no authority to alter ACX token mechanics or holder capabilities unilaterally—any proposed modification must pass through community governance. Additionally, external legal or regulatory developments may impact how ACX is used or accessed, though such changes are not considered modifications of the token's technical rights but rather shifts in the broader legal environment. Importantly, ACX has no mechanism for arbitrary inflation, and any decision to issue a new version or token would require consensus. While the protocol is governed by community-driven decisions, it is technically possible for the project to wind down or become inactive if community participation ceases, though such an outcome reflects ecosystem dynamics rather than structured changes to tokenholder rights.

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

ACX's supply is fixed and not subject to any on-demand adjustment protocols [OBJ] [OBJ]. There is no algorithmic mechanism that pegs, rebases, or otherwise dynamically changes the total supply of ACX in response to price or external metrics. All 1,000,000,000 ACX were created at token launch, and the contract does not allow further minting (the mint function was used once at deployment and then ownership was renounced) [OBJ]. Thus, aside from negligible reductions due to potential token burns (none have been executed by governance so far) or tokens lost forever if someone loses keys, the supply remains constant.

In simpler terms: ACX does not have an inflation schedule (like staking rewards that mint new tokens) nor a supply contraction mechanism (like stablecoins that can be redeemed and burned to adjust supply). The distribution over time was handled by vesting and airdrops – releasing existing tokens, not creating new ones.

If the community chose to implement any supply change, it would require deploying new contracts via governance consensus (for instance, a token swap or migration). But as of now, ACX's supply is static, which is a reassuring factor for holders as there is no built-in dilution or unpredictable supply changes.

G.13 Supply Adjustment Mechanisms

Not applicable. (Given the above, there are no special mechanisms like algorithmic rebasing, mint/burn programs or other dynamic adjustments in ACX that require explanation. The supply only changes via one-directional distribution of pre-minted tokens and potential token loss; none of which are "mechanisms" needing description. So this entry is essentially N/A – aside from manual burns which haven't happened, ACX has no mechanisms adjusting supply on the fly.)

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

For admission to trading of ACX on LCX, the applicable law is Liechtenstein law, in accordance with MiCA and EU regulations. For decentralized use of ACX on Ethereum or other networks, applicable law depends on the user's jurisdiction. Any disputes related to services provided by LCX shall fall under the jurisdiction of the Courts of Liechtenstein.

G.19 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

H. PART H – INFORMATION ON THE UNDERLYING TECHNOLOGY

H.1 Distributed ledger technology

ACX is issued and transacted on the Ethereum blockchain, which is a public, permissionless distributed ledger. Specifically, Ethereum serves as the base layer DLT for ACX token ownership records and transfers. Ethereum is a decentralized network of nodes (validators) that maintain a consensus over a ledger of accounts and smart contracts. It provides the security and finality for ACX token transactions: whenever ACX is transferred, that transaction is recorded in an Ethereum block and, after sufficient confirmations, becomes effectively immutable.

Ethereum's design is account-based (each user's wallet address has a balance) and uses the EVM (Ethereum Virtual Machine) to execute smart contracts (including the ACX token contract). Since September 2022, Ethereum operates under a Proof-of-Stake (PoS) consensus mechanism (known as the Beacon Chain consensus, post-Merge) [OBJ] [OBJ]. Under PoS, validators put up ETH as collateral and take turns proposing and attesting to new blocks; this has dramatically reduced Ethereum's energy usage while maintaining security. Ethereum's block time averages ~12 seconds and it can process around 15-30 transactions per second on layer-1, with eventual scalability improvements planned (sharding, etc.).

Key attributes of Ethereum as the DLT for ACX:

- Security and Finality: Ethereum's PoS consensus and large decentralized validator set (over 500k validators as of 2025) secure the ledger. Finality is typically achieved within a few epochs (~6.4 minutes), meaning after that, a block (and its transactions) are extremely unlikely to be reverted.
- Smart Contract Support: The ACX token is implemented as an ERC-20 smart contract on Ethereum. Ethereum's ability to run Turing-complete code in the form of smart contracts is what enables ACX's functionalities (like governance voting contracts, bridging contracts for Across, etc.) to exist and operate autonomously.
- Interoperability: Many other chains (Layer-2s) use Ethereum as their parent chain. Across Protocol itself interacts with Ethereum and various L2 networks (like Arbitrum, Optimism, etc.) which are also DLTs (often rollups that post data to Ethereum). But the main reference point for ACX is Ethereum mainnet. ACX's token contract address on Ethereum uniquely identifies it; on L2s, one might find representations (like a bridged ACX token contract on Arbitrum, which is effectively a claim on mainnet ACX locked in a bridge).
- Transparency: All ACX transactions and balances on Ethereum are public. Anyone can verify token supply, transactions, and contract code on block explorers (like Etherscan).
- Permissionlessness: Ethereum allows anyone to hold and transfer ACX without needing permission from an authority, as long as they follow protocol rules (pay gas, have valid signature). The ledger is global and neutral.

ACX Whitepaper: https://docs.across.to/

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

ACX Main repository: https://github.com/across-protocol/across-token

ACX Developer portal: https://docs.across.to/developer-quickstart/bridge-integration-guide

H.2 Protocols and Technical Standards

ACX and the Across Protocol adhere to several widely-recognized protocols and technical standards in the blockchain space:

- ERC-20 Token Standard: ACX is implemented according to the ERC-20 standard (Ethereum Request for Comment 20) [obj]. This defines the interface for fungible tokens on Ethereum (functions like totalSupply(), balanceOf(address), transfer(address,uint256), etc.). Compliance with ERC-20 ensures ACX can be integrated with wallets, exchanges, and DeFi platforms seamlessly. The ACX contract uses standard OpenZeppelin ERC-20 libraries, meaning it includes safe math operations and emits the standard events (Transfer, Approval). By using ERC-20, ACX leverages a battle-tested framework that minimizes technical friction for adoption.
- Solidity Programming Language: The smart contracts for ACX token and Across Protocol are written in Solidity (the predominant high-level language for Ethereum smart contracts). The ACX token contract, the Across HubPool and SpokePool contracts, etc., all use Solidity syntax and compile to EVM bytecode. This choice of language and EVM compatibility is intentional to use Ethereum's full ecosystem of developer tools, security analysis (like Slither, MythX), and auditing practices [obj].
- OpenZeppelin Contracts: Across Protocol's contracts leverage OpenZeppelin's standard library for secure contract implementations. For example, the token uses OpenZeppelin's SafeERC20 and ERC20 implementation; the upgradeable proxy patterns (if used anywhere) and access control likely use OpenZeppelin's libraries. This standardization improves security and interoperability.

  Across Protocol Specifics: Across has introduced some custom standards or patterns:

- Intents – While not a formal standard like ERC-**, the concept of "intents" in Across describes a protocol design where user intent is broadcast and fulfilled. This pattern aligns with emerging cross-chain interoperability practices and may influence standards in the future.
- ERC-7683 (Draft Standard) – The OpenZeppelin audit report references an ERC-7683 related to Across [obj]. This appears to be a custom or in-development standard that Across implemented for order deposits. It suggests Across contributed to or utilized a new ERC standard for bridging or bridging-related messages. They mention ERC7683Across.sol and such. While not widely known outside Across's context, it indicates the team attempted to standardize cross-chain deposit receipts or orders.
- Cross-Chain Messaging Adapters: Across uses standardized interfaces to interact with chain messaging protocols (like canonical bridges or LayerZero, etc.). For L2 communication, they built adapters (Arbitrum_Adapter, Optimism_Adapter) that conform to those chains' standard bridge interfaces. For example, Arbitrum messages use the standard ArbSys or Inbox interfaces; Across's Arbitrum_Forwarder likely implements Arbitrum's expected functions for a bridge. Similarly, for Optimism (OVM), they followed its cross-domain messenger interface. These adapters ensure Across's cross-chain operations conform to each chain's protocol for message passing [obj] [obj].
- Router/Forwarder Architecture: The introduction of Router_Adapter and Forwarder contracts for L3 support is built with modular design – possibly aligning with evolving standards for multi-hop bridging. While unique to Across now, it essentially wraps standard L2 messages to forward to L3s [obj] [obj]. This design might not be an existing standard, but it's constructed to be compatible with chain standards (treating L3 like L2 by adding one more hop).

- UMA's Optimistic Oracle standard: Across leverages UMA's oracle. UMA's optimistic oracle is not an off-the-shelf Ethereum standard like ERC-20, but it's a protocol with defined interfaces (contracts request a price or truth, and there's a standard method of proposing and disputing). The integration follows UMA's published interface for optimistic oracles, meaning Across's contracts call UMA's oracle contracts in the expected way. UMA's oracle mechanism is itself somewhat standardized in the UMA ecosystem (multiple projects use it). In essence, Across conforms to the "optimistic oracle protocol" where any party can propose an outcome and it's confirmed after a liveness period if not disputed, or resolved by token holder voting if disputed [obj] [obj].
- Snapshot Governance Standard: For off-chain voting, Across uses Snapshot, a popular off-chain voting standard that many DAOs use. Snapshot has a standard JSON format for proposals and tallies votes based on signed messages reflecting ERC-20 balances. ACX being an ERC-20 allows Snapshot to easily count votes. This is a de facto standard in decentralized governance – not a blockchain protocol per se, but widely recognized infrastructure. ACX holders likely vote on Snapshot's website using their wallet signature; Snapshot reads ACX balances via an Ethereum provider at a certain block (proposal block) to calculate voting power [obj].
- Multisig Wallet Standards: The Across DAO treasury, for instance, might be controlled by a Gnosis Safe multisig – which is an industry-standard multisig contract. Gnosis Safe is widely used, and by using it, Across adheres to a known secure standard for collective asset management.
- Ethereum Improvement Proposals (EIPs): The project naturally adheres to basic Ethereum standards: EIP-155 (chainID for replay protection in transactions), EIP-20 (ERC-20 itself), EIP-2612 (Permit function) – it's unclear if ACX token implemented EIP-2612 (permit for gasless approvals). If they did (some modern tokens do), that is another standard. Not explicitly stated, likely ACX might not have permit, but if needed, they could add it.
- Chain Interoperability Standards: Across's approach competes with or complements things like CCIP (Chainlink Cross-Chain Protocol) or LayerZero protocol. While not directly integrating those, Across's design is modular enough that it could integrate with standardized cross-chain messaging if they emerge.

H.3 Technology Used

The Across Protocol leverages a combination of on-chain smart contracts and off-chain infrastructure to support its cross-chain bridging functionality. These components work together to facilitate secure, decentralized asset transfers across multiple blockchain networks.

At the core of the protocol are the smart contracts deployed on Ethereum and other chains such as Arbitrum and Optimism. The central contract, known as the HubPool, is deployed on Ethereum and holds the primary liquidity used for cross-chain transfers. It manages asset deposits, processes fund distribution, calculates fees, and interacts with the optimistic oracle for claim verification. Complementing the HubPool are SpokePool contracts deployed on supported chains. When a user initiates a transfer from an L2 network, they deposit into the local SpokePool, which records the event and relays it to the Ethereum-based HubPool. Conversely, when funds are bridged to an L2, the HubPool sends assets to the respective SpokePool after validation via oracle. These SpokePools function as both vaults and message relays for their respective networks.

To enable bridging beyond L2s, Across uses chain adapters and forwarder contracts, such as Router_Adapter on Ethereum and chain-specific forwarders (e.g., Arbitrum_Forwarder). These contracts manage message routing and allow the protocol to handle multi-hop transfers (e.g., Ethereum → L2 → L3) in a modular fashion.

The ACX token, along with other bridged ERC-20 assets, runs on Ethereum and is also represented on other chains. It is used within the protocol for various purposes, including

distribution of incentives through contracts like Merkle distributors or reward lockers. These contracts may implement time-locked rewards to encourage longer-term participation by liquidity providers.

Governance-related actions are managed through standard decentralized mechanisms, which likely include a timelock contract and multi-signature wallet (e.g., Gnosis Safe). If on-chain voting is supported, a Governor contract would execute approved proposals following community consensus. These components ensure secure and verifiable control over protocol changes.

Off-chain infrastructure plays a vital role in bridging execution. Independent relayers monitor events across networks and facilitate fund movement by fronting liquidity. For example, a relayer might pay a user on Ethereum after detecting a deposit on an L2 and later claim reimbursement from the HubPool. These relayers operate competitive bots to fulfill transfers quickly and cost-effectively, using SDKs or custom integrations to interact with blockchain nodes. The UMA Optimistic Oracle underpins relayer accountability. After executing a transfer, a relayer posts a claim on-chain, which enters a challenge window. If unchallenged, the claim is settled by the oracle; otherwise, UMA token holders vote to resolve the dispute. This ensures that relayers are only paid for valid transactions.

The protocol also provides a user-facing web interface at app.across.to, allowing users to initiate transfers, track status, and interact with smart contracts via wallets such as MetaMask. The interface likely relies on standard libraries like web3.js or ethers.js, guiding users through network switching, transaction signing, and confirmation. The front end is maintained by Risk Labs but the contracts are publicly accessible, and users may interact directly with them.

Additional infrastructure, including Ethereum nodes, L2 nodes, indexers, and potentially subgraphs (e.g., via The Graph), supports data availability, analytics, and transfer history tracking. These systems enhance reliability and user experience by offering real-time insights into total value locked (TVL), pending transfers, and protocol activity.

Finally, in terms of security and upgradability, the protocol architecture likely includes timelocks and admin controls. In its early stages, Risk Labs may have retained admin access to pause operations in case of critical bugs. Over time, such controls may be transitioned to DAO governance. Emergency pause features, multi-sig protections, and upgradability limitations reflect standard security practices in DeFi infrastructure.

H.4 Consensus Mechanism

The Across Protocol itself does not introduce a new consensus mechanism; instead, it relies on the consensus mechanisms of the underlying blockchains it interacts with and the optimistic oracle for dispute resolution:

Ethereum’s Consensus (Proof-of-Stake): Since ACX and core contracts run on Ethereum, the primary consensus securing transactions is Ethereum’s Proof-of-Stake consensus. Under PoS, validators stake ETH and run the consensus algorithm (Casper-FFG over the Beacon Chain) to agree on the ordering of transactions and the state of the ledger. This means ACX token transfers and any interactions with the HubPool or governance votes achieve finality through Ethereum’s validator agreement. Ethereum’s PoS provides high security due to the large amount of staked ETH (over 26 million ETH staked as of 2025) and the economic penalties for misconduct (slashing). Thus, any transaction (like a user bridging funds or a governance action distributing ACX rewards) is finalized by the attestation of 2/3+ of validators on Ethereum. This mechanism has proven robust, with very low probability of chain reorgs beyond a single block. Blocks are produced ~ every 12 seconds and finality is typically 2 epochs (~13 minutes) under normal conditions. So Ethereum’s consensus ensures that once a bridging transaction is included and finalized, it’s permanent [OBJ] [OBJ].

Layer-2 Chains' Consensus: Across interacts with L2 networks such as Arbitrum and Optimism. Each of these has its own consensus model, though not independent in the same way:

Optimism: Uses Ethereum as a settlement layer; it posts transaction batches to Ethereum and relies on an interactive fraud-proof (if someone submits a fault proof within a week, etc.). While not a consensus in the classical sense (Optimism has a single sequencer ordering transactions), ultimately Ethereum's consensus (plus the fraud-proof mechanism) underpins Optimism's security. For bridging, this means if a user deposits on Optimism's SpokePool, we trust that Optimism's chain state is correct and will finalize on Ethereum unless a proof indicates otherwise.

Arbitrum: Similarly, Arbitrum has its own sequencer but final resolution of disputes happens on Ethereum via fraud proofs. Arbitrum's design ensures that as long as Ethereum is secure and at least one honest party can challenge, Arbitrum's state will be correct.

So, for L2, the effective consensus is a mix of the sequencer's ordering (which we assume is honest for liveness but not for security) and Ethereum's consensus plus challenge game for security.

Across must consider the challenge periods: funds bridged from an L2 might only be fully secure after the L2's challenge window (7 days for Optimism/Arbitrum at present). However, Across shortcuts this by using the optimistic oracle to verify transfer correctness in hours rather than waiting the full challenge period – effectively layering an oracle-based "consensus" on top to speed up finality for bridging.

UMA's Optimistic Oracle (Voting Mechanism): The optimistic oracle is a form of social consensus mechanism. When a relayer's claim is disputed, UMA token holders (or delegates) vote on the correct outcome. UMA's consensus is achieved by economic game theory: voters are rewarded for voting with the majority and the assumption is the majority will vote honestly if the economic incentives are properly aligned (honest voting is a Schelling point). UMA's mechanism typically uses a commit-reveal scheme to prevent bribery or coordination issues, and participants stake their reputation (and UMA tokens via potential slashing for dishonest votes). If at least one honest voter with sufficient stake participates, the correct outcome should win out . This is not a traditional network consensus like PoW or PoS, but a decentralized oracle consensus. It's slower (voting might take e.g., 24-48 hours to finalize a result) and relies on crypto-economic incentives rather than hashing or staking in the same way. However, UMA's oracle has been reliable historically for many projects. So, while Across doesn't have miners or its own validators, it leverages this oracle voting consensus as a crucial part of its security model.

Relayer Selection and Consensus: There isn't a consensus mechanism among relayers – they are in competition, not cooperation. The first relayer to fulfill a request does so, and others have no say except they could dispute if the first lied. So no consensus there, just market competition and fallback to oracle if disagreements.

H.5 Incentive Mechanisms and Applicable Fees

Across Protocol has a built-in system of incentives and fees designed to align the interests of users, liquidity providers, and relayers, while ensuring the protocol's smooth operation:

Liquidity Provider Incentives: LPs who deposit assets into the Across Hub Pool on Ethereum earn revenue from two sources:

1. Bridge Fees: When users bridge through Across, they pay fees. Part of these fees compensate liquidity providers for the use of their capital. The fee model is interest-rate based rather than a simple flat fee . Essentially, if the liquidity pool for an asset is heavily utilized (funds mostly lent out to bridge), the protocol might charge a higher fee (like an interest rate) to discourage further borrowing, and that fee goes to LPs (and potentially relayers or DAO).

Conversely, with plenty of liquidity idle, fees are low to encourage usage. This no-slippage fee model means users aren't losing value to slippage as on AMMs, but rather pay a transparent fee that often manifests as an interest for the time value while their funds are in transit.

2. ACX Rewards: As part of the initial token distribution, 100 million ACX (10% of supply) was allocated to protocol rewards . A significant portion of this (75 million ACX) is designated to liquidity mining for LPs across various pools . These ACX emissions are distributed over time (initially ~150k ACX per day across pools, per docs) to LPs as an incentive to provide liquidity . The Reward Locking program mentioned suggests that rewards might vest or be locked for a period to encourage long-term provision – possibly ACX rewards have to be locked to earn extra yield or unlock slowly, aligning LPs to stay with the protocol. This dual incentive of earning both bridging fees and ACX tokens makes providing liquidity attractive, especially in early growth stages.

Relayer Incentives: Relayers facilitate transfers and are economically incentivized:

They earn a portion of the user-paid fees for each transfer they fulfill. In practice, when a user requests a bridge, the protocol sets a fee (say 0.1% or a flat amount) the user will pay. The relayer who fulfills the transfer will receive that fee (or a majority of it) upon reimbursement . This compensates them for the service and any time-value of money.

Relayers may also receive ACX rewards for their role, although not explicitly stated, some protocols do incentivize early relayers with tokens. It's possible that part of the reward allocation or community treasury could be used to reward relayers (or at least they indirectly benefit because some are also LPs or ACX holders).

Competitive dynamic: If multiple relayers compete, they might effectively lower the implicit fee (some designs have relayers bid fee discounts or use the fastest relayer gets the base fee). This competition drives down costs and speeds up service for users .

Relayers must stake something or have skin in the game? In Across's design, relayers don't stake ACX to be relayers (not a PoS network). But they do need capital on target chains to pre-fund transfers, so they have their own capital at risk until reimbursed. Also, a dishonest relayer could be disputed and if found cheating, they might be slashed or penalized via the oracle system. The documentation suggests if a relayer claim is fraudulent, the relayer could lose some bond (maybe they have to post a bond with each claim). This is an incentive to behave honestly.

- User Fees: Users pay a bridge fee when moving assets. This fee structure might comprise:
- A base fee (possibly a percentage of amount, or minimum flat fee).
- An instantaneous liquidity fee (like interest depending on pool utilization as mentioned).

Possibly a small destination gas fee: bridging often involves paying the recipient's transaction gas on the destination chain. Across might bake in a fee to cover that so the user receives the exact token amount without needing gas on the target chain. This is common: for example, bridging to L2, the bridge may subtract a bit to pay the L2 gas for final delivery. Across's design of "no slippage" doesn't mean no fee, it means predictable fee. So user sees exactly what they'll get minus a known fee.

According to one source: bridging 1 ETH cost ~$1, which is ~0.06% if ETH is $1600 . That's very low compared to many bridges. This suggests Across's fee model is very competitive, likely achieved by the large single liquidity pool and the competitive relayers.

Users also implicitly pay an opportunity cost: if bridging takes e.g., 10 minutes, their funds are locked for that time, but across is so fast that it's negligible. They also must pay Ethereum gas fees to initiate a bridge and maybe to claim on the other side if needed.

ACX Token Incentives: ACX itself provides meta-incentives:

Governance participation: Active community members (who might be LPs or relayers) hold ACX to vote on decisions that could benefit them (like adjusting fee parameters or extending rewards programs). This encourages stakeholders to become ACX holders, aligning them with the protocol's long-term success.

Token value growth: All participants are incentivized to grow Across usage because increased bridging volume means more fees and potentially more value accrual to ACX if a mechanism (like a fee switch) is turned on in the future. Even without direct fee sharing, a successful protocol often leads to token price appreciation, benefiting ACX holders (including LPs who got ACX rewards).

Locking Mechanism: The documentation references a "Reward locking program" [OB]. This likely means LP ACX rewards are not immediately liquid; they might be locked for some period or require staking to realize maximum benefit. This mechanism incentivizes LPs to remain engaged and reduces immediate sell pressure on ACX from reward farmers. It may operate similarly to programs where you vest your rewards over X months, or you can claim early with a penalty, etc. By doing so, it encourages long-term alignment and mitigates mercenary capital.

ACX staking (if introduced) could also be an incentive mechanism: e.g., if staked ACX gets a cut of fees or boosts one's voting power or LP yield, that encourages holding and staking ACX rather than flipping it.

Fee Allocation: The collected fees from users are distributed:

Typically, a portion goes to the Relayer, a portion to LPs. Possibly a small portion could go to a protocol treasury. It's not explicitly stated, but the DAO might take a fee cut for future development. If currently the DAO fee is 0, the governance could later decide to introduce one (this would be the "fee switch" concept). For now, likely most goes to LP and relayer to bootstrap growth.

For example: A user bridges, pays 0.1% fee. Maybe 0.08% goes to LPs (as yield) and 0.02% goes to relayer. These numbers are hypothetical. The exact split could depend on market conditions (if lots of relayer competition, relayers might accept smaller fees).

Penalties: If a relayer or user tries to game the system, there could be implicit penalties:

A relayer posting a false claim and getting caught might lose a bond (maybe they have to lock some amount of the asset or ACX as collateral when making a claim).

LPs can withdraw anytime, but if they withdraw during high utilization maybe they forego pending interest? Unclear, likely not, but just leaving a possibility.

- Economic Security Considerations: The incentive design ensures that:
- There's always enough liquidity (by rewarding LPs).
- Transfers are fast (by rewarding relayers who act quickly).

- The system is honest (by penalizing dishonest claims through UMA's oracle; the honest actors are rewarded, dishonest lose money).

ACX distribution fosters decentralization of governance (lots of people earned ACX via airdrop and rewards, making the governance token widely spread rather than concentrated solely with team/investors).

H.6 Use of Distributed Ledger Technology

True

H.7 DLT Functionality Description

The Across Protocol utilizes distributed ledger technology (DLT) to facilitate fast, trust-minimized cross-chain transfers of crypto-assets. Its architecture is based on a combination of smart contracts deployed on multiple blockchains—primarily Ethereum, Arbitrum, and other Layer 2 networks—alongside an optimistic validation system. When a user initiates a transfer on the source chain (e.g., Arbitrum), their deposit is recorded on-chain by a SpokePool smart contract, which emits an event containing the transfer details. Off-chain relayers monitor these events and act as liquidity facilitators by pre-funding the user on the destination chain (e.g., Ethereum), typically from their own inventory, to ensure rapid settlement.

To get reimbursed, the relayer submits a claim to the Ethereum-based HubPool smart contract. This claim enters an "optimistic" challenge period, during which any disputes may be raised and resolved via UMA's Optimistic Oracle system. If undisputed, the relayer's claim is finalized, and funds are released from the protocol's liquidity pool. All related transactions, including deposits, claims, oracle interactions, and reimbursements, are immutably recorded on the relevant ledgers.

ACX tokens are distributed as rewards to liquidity providers (LPs) and potentially to relayers, tracked via smart contracts that may use mechanisms like Merkle distributions. Governance decisions—such as adjusting parameters or supporting new chains—are also facilitated through DLT by ACX token holders on Ethereum. The entire lifecycle of a bridging transaction, from deposit to final settlement, is executed via interoperable smart contracts and logged across the involved distributed ledgers.

This decentralized framework ensures transparency, verifiability, and security. Each action—from user deposits and relayer claims to governance proposals—is cryptographically secured and publicly auditable on-chain. The protocol's DLT-based design enables scalability by integrating additional chains through new smart contract deployments, with Ethereum serving as the central coordination layer. By removing the need for trusted intermediaries, Across enables efficient and trustless cross-chain asset transfers entirely through distributed ledger infrastructure.

H.8 Audit

True

H.9 Audit Outcome

Across Protocol has undergone multiple rigorous audits conducted by OpenZeppelin, targeting both incremental contract changes (such as OFT integration, periphery enhancements, and Solana compatibility) and the broader V2/V3 architecture. These audits uncovered issues across severity levels—critical, high, medium, and low. Notably:

In the OFT Integration Differential Audit, no critical issues were found. It did, however, surface one unresolved high-severity issue and several medium- and low-severity findings, several of which were partially or fully resolved.

Audit link: https://blog.openzeppelin.com/across-protocol-oft-integration-differential-audit

The Diff Audit addressing features like custom gas token support resolved the single critical and all other findings identified, reflecting a satisfactory remediation process .

Audit link: https://blog.openzeppelin.com/across-protocol-diff-audit

The Periphery Changes Audit, focused on enhancements like swap-and-bridge user interfaces and extended contract functionality, found one high-severity issue along with medium and low issues—all of which were resolved .

The SVM Solidity Audit, which added support for Solana and ERC-7683, detected one critical issue and some low-severity items, all of which were addressed .

These repeated audits—spanning various iterations and feature sets—demonstrate an ongoing commitment to security through continuous review and remediation of identified vulnerabilities.

Regarding continuous oversight, CertiK's Skynet platform monitors Across Protocol in real time, offering up-to-date security insights and indicators such as Code Security, Operational Resilience, Governance Strength, and Community Trust .

I. PART I – INFORMATION ON RISKS

I.1 Offer-Related Risks

Market & Trading Risks: The admission of ACX to trading (and its trading on various exchanges) exposes holders to typical cryptocurrency market volatility . The market price of ACX can fluctuate rapidly and unpredictably. Factors such as overall crypto market sentiment, macroeconomic news, developments in competing cross-chain projects, or usage changes in Across Protocol can cause significant price swings. It's common for tokens similar to ACX to experience double-digit percentage moves within days or even hours. An ACX holder must be prepared for the possibility of large losses (or gains) in short time frames. Liquidity risk is also present: although ACX will be listed on multiple exchanges (including a regulated one via LCX), extreme market conditions or regulatory news could dry up liquidity, making it difficult to execute large buy/sell orders without moving the market price significantly . In times of stress, the spread between buy and sell prices might widen and slippage (the price impact of trades) could increase for ACX.

Regulatory Risk (Offer/Trading): The regulatory environment for crypto-assets like ACX is evolving and can impact trading . While MiCA provides a framework in the EU (under which this white paper is voluntarily filed), other jurisdictions might impose new restrictions. For example, if a country outside the EEA were to classify ACX as a security or ban crypto trading, exchanges in that region might delist ACX, affecting global market access and liquidity. Even within the EEA, changes in rules (or enforcement thereof) could affect ACX's trading; for instance, if future regulations imposed stricter requirements on DeFi governance tokens, some platforms might limit trading to certain investor categories. Regulatory uncertainty or adverse rulings (like a court decision impacting similar tokens) could also cause rapid price declines as investors reassess legal risk.

Trading Platform Risks: When trading ACX on any platform (centralized exchanges like LCX or others), holders face the operational and security risks of those platforms . These include the risk of exchange downtime or technical outages that could prevent placing orders or

withdrawing funds at crucial times. If an exchange listing ACX were to suffer a cyber-attack or hack, ACX holders on that exchange could lose funds or face delays in accessing them – note that exchange security is separate from ACX's protocol security, but still a risk for those choosing to custody with the exchange. There's also counterparty risk: if an exchange becomes insolvent or is poorly managed (as seen in some historical crypto exchange failures), users might not be able to recover their ACX holdings from that platform.

Custodial Risk: Relatedly, holders who keep ACX on an exchange or with a third-party custodian rely on that entity's security practices and solvency . If the custodian is compromised or mismanages private keys, the ACX could be stolen (with potentially no recourse). If the custodian faces bankruptcy, users might become unsecured creditors. These risks are not unique to ACX but apply to any crypto asset stored off-chain. The recommendation for mitigating this is for users to self-custody in their own wallets whenever possible, though that comes with its own risk of key management (discussed later).

I.2 Issuer-Related Risks

Since ACX is a decentralized token with no traditional corporate issuer guaranteeing performance, "issuer-related" risks translate to ecosystem and development risks associated with Risk Labs and the Across Protocol's core contributors :

Dependence on Core Team (Risk Labs) and Key Personnel: The development and success of Across Protocol have so far been significantly driven by the Risk Labs Foundation and its co-founders and engineers (like Hart Lambur and team). If the core team were to face disruption – for instance, if key members leave the project, lose interest, or are incapacitated – the pace of updates and improvements to Across could slow dramatically. The Risk Labs team provides expertise and maintenance; losing that could result in slower response to technical issues, fewer new features, or even project stagnation, which could erode confidence and reduce ACX's value. This risk is partially mitigated by the project's open-source nature and community governance, but in practice, finding equally skilled contributors to replace a dedicated core team can be difficult.

Continuity and Funding of Development: The Risk Labs Foundation presumably utilizes treasury funds (they hold a significant ACX allocation and perhaps other assets) to fund ongoing development. If those funds were mismanaged or depleted quickly, development might suffer. There have been allegations in mid-2025 regarding Risk Labs' fund usage (the $23M insider allegation) , , which, while refuted, highlight that perceived misuse of funds or governance manipulation by the team can damage trust. Even unfounded accusations can create community rifts or regulatory scrutiny that distract the team and hamper progress.

Centralization of Influence: Although ACX governance is nominally decentralized, the initial distribution means Risk Labs and early investors hold a significant portion of ACX (Risk Labs Treasury ~19.5%, investors ~22%) , . This concentration implies that the core team and close insiders could exert outsized influence on DAO decisions. There's a risk that these insiders might push proposals beneficial to them (like unlocking tokens early, or directing treasury funds to their own initiatives) at the expense of the broader community. If the community perceives governance as a sham ("DAO in name only" scenario), it could lead to loss of confidence and exit of community members , . The cointelegraph allegations mentioned ("manipulating votes to funnel tokens to Risk Labs") exemplify this risk: even if operations were within rules, the optics of insiders voting themselves tokens can hurt reputation.

Reputation and Legal Risks of Issuer (Risk Labs): Risk Labs being based in Cayman Islands as a non-profit foundation could be subject to legal changes or scrutiny (e.g., Cayman regulators or U.S. regulators examining if the foundation's activities violate any laws like securities laws). Lambur asserted Risk Labs is a non-profit with fiduciary obligations [OBJ], but if, hypothetically, evidence emerged of mismanagement, legal actions could tie up the foundation's resources. That could stall development or cause a leadership vacuum. Also, if regulators disputed the "non-profit" status or considered ACX distribution a securities offering, Risk Labs directors could face legal challenges, impacting their ability to continue supporting the project.

I.3 Crypto-Assets-Related Risks

Decentralization and Absence of Backing: ACX is token with no tangible backing or guaranteed value [OBJ]. It is not pegged to any asset, doesn't represent a claim on profits or reserves, and its value derives solely from market perception of the Across Protocol's usefulness and future prospects. As such, ACX's price could theoretically drop to zero if the market loses confidence – there's no floor like a redemption guarantee or central bank support. Holders face the risk that their ACX could become worthless if, for example, Across Protocol becomes obsolete or abandoned [OBJ] [OBJ]. Unlike a stablecoin or asset-backed token, ACX has no inherent price stability mechanisms.

Market Volatility: By nature, crypto-assets similar to ACX have historically exhibited extremely high volatility. ACX's price will likely swing with broader crypto trends (e.g., bull vs. bear markets) as well as news specific to cross-chain technology. Historical analogs (governance tokens of DeFi projects) have seen 50%+ swings in short periods [OBJ]. Macroeconomic factors (like interest rate changes causing risk asset sell-offs) or events like hacks in another bridge can cause industry-wide dips affecting ACX even if Across itself remains secure. ACX, being a mid-cap token (market cap around $100M range as of mid-2025), could be more volatile than larger tokens due to relatively lower liquidity and concentration of holdings. This volatility risk means holders must be prepared for large drawdowns. There's also momentum risk: sudden hype could overinflate ACX's price beyond fundamentals, followed by a sharp correction.

Liquidity and Market Access: While ACX is traded on multiple platforms, regulatory changes or exchange decisions could restrict access [OBJ]. For instance, if US regulators deem ACX a security, US exchanges might delist it, cutting off a portion of demand and causing price declines. Different jurisdictions might impose different restriction.

Custodial/Security Risks for Holders: Holding ACX requires managing private keys if self-custodied. If holders opt for self-custody (which is common to truly own your tokens), losing one's private key or seed phrase would result in permanent loss of ACX [OBJ]. There is no recovery mechanism (no central authority to reset a password). This is a non-trivial risk: many crypto holders have lost funds due to misplaced keys or mistakes (sending tokens to wrong addresses, etc.). Alternatively, if holding ACX in smart contracts (like providing liquidity on a DEX or staking in a governance contract if that arises), smart contract risk applies – bugs in those third-party contracts could lead to loss of ACX. Additionally, ACX holders need to be vigilant against scams (e.g., phishing attempts to steal keys, or fake airdrop links etc.). As ACX grows in recognition, holders might be targeted by such schemes.

Network Usage and Utility Risks: The fundamental value of ACX is tied to usage of the Across Protocol. If Across Protocol fails to attract significant usage (e.g., if bridging volumes stagnate or decline because users prefer competitor bridges or new interoperability tech makes it obsolete), demand for ACX could drop.

I.4 Project Implementation-Related Risks

Implementing and expanding a complex DeFi project like Across Protocol entails several risks that could impede the achievement of its technical and business objectives [OBJ]:

Technical Development Challenges: Across aims to be at the cutting edge of cross-chain bridging technology. Building such infrastructure that is secure, fast, and works across many blockchains is non-trivial. There is risk that some planned improvements or features take longer than expected to develop or prove more difficult to implement than anticipated [OBJ]. For instance, supporting a new class of blockchains (like non-EVM chains) might require substantial engineering effort or might never be implemented if technological hurdles (e.g., no robust oracle or messaging mechanism for that chain) exist. Delays in delivering promised features – such as integration with more Layer-3s, or enhancing the optimistic oracle speed – could slow adoption and give competitors an edge.

Scaling and Performance Risks: As usage grows, the Across infrastructure might face scaling bottlenecks. The design currently channels everything through an Ethereum hub. If bridging volume increases massively, gas costs on Ethereum for processing claims and oracle votes could rise, potentially making it expensive to use or limiting throughput. There's a risk that if not proactively optimized (or migrated to more scalable Layer-2 solutions for the hub), the protocol might not handle peak loads efficiently, causing user frustration or pushing them to alternatives. Additionally, heavy reliance on UMA's oracle means throughput is limited by how fast disputes can be resolved (hours). If user demands shift toward near-instant finality without trusting any validators, Across's design (with a challenge period) might be seen as too slow – bridging is a competitive space and user expectations rise over time.

Integration and Interoperability Risks: Across's implementation needs to interoperate with many blockchains and standards. Changes in those external systems can pose a risk. For example, if one of the major L2s changes its bridge mechanics or an upgrade alters how messages are sent, Across might need to update its adapters. If such changes occur unexpectedly and Across fails to update in time, bridging to/from that chain could break temporarily or permanently. Moreover, adding support for new chains (like future rollups or sidechains) may require significant modifications or new contract deployments, which carries the risk of introducing bugs if not carefully audited. Each new integration is a potential point of failure if not executed properly.

I.5 Technology-Related Risks

Smart Contract Vulnerabilities: Despite rigorous audits, no smart contract is guaranteed to be flawless. There is an inherent risk of undiscovered bugs or exploits in Across Protocol's smart contracts (HubPool, SpokePools, adapters, etc.) [OBJ]. If a vulnerability were found by malicious actors, it could be exploited to steal funds from the liquidity pool or to manipulate the protocol's logic (for example, falsifying a relayer claim without being caught). Bridges historically have been lucrative targets for hackers – any flaw could lead to a significant loss of user funds. While audits reduce this risk, they cannot eliminate it entirely (some hacks occurred in projects that were audited). A successful hack on Across could not only directly harm liquidity providers and users by loss of funds, but also devastate confidence in the protocol, causing ACX's value to plummet.

Oracle and Relayer Risks: The security of Across heavily relies on the UMA optimistic oracle and the assumption that at least one honest actor will dispute false claims [OBJ]. If the oracle

system were compromised (say, an attacker somehow influences UMA voters or finds a way to spam the system so legitimate disputes fail to get through in time), a false transfer claim might be accepted, leading to a theft from the liquidity pool. Alternatively, if relayers collude or a single dominant relayer behaves maliciously (perhaps failing to deliver funds after taking user deposits, although the design incentivizes them not to because they only get paid after proving delivery), it could disrupt service. Even if funds are not stolen, an oracle failure or relayer issue could cause extended downtime for the bridge (pausing transfers until resolved), hurting the protocol's reliability reputation.

Ethereum Network Congestion or Failure: Since Across's core operations occur on Ethereum, extreme Ethereum congestion (like during a major DeFi craze or market crash) could slow down or raise the cost of Across operations. For instance, if gas prices are extremely high, the cost to execute oracle disputes or claim reimbursements might become prohibitively expensive or slow (if transactions get stuck). This could result in delays in bridging or in relayers hesitating to operate due to uncertain costs, thereby degrading user experience or temporarily halting transfers. An outright failure of Ethereum (extremely unlikely, but e.g., a chain halt due to a critical bug) would effectively freeze ACX transfers and bridging until resolved, as Ethereum is the final settlement layer. Similarly, issues on L2 networks (like a sequencer outage on Optimism or a chain halt) would impede bridging to/from those networks.

I.6 Mitigation Measures

The Across Protocol project and the broader ACX community have implemented, or plan to implement, several measures to mitigate the aforementioned risks and enhance the resilience and trustworthiness of the token and platform:

Security Audits and Ongoing Review: As detailed, the smart contracts underwent extensive third-party audits (e.g., OpenZeppelin) [OBJ]. All critical issues were fixed, greatly reducing technical risk. The team commits to auditing any major upgrades in the future before deployment. Additionally, the code is open-source, allowing continuous peer review by the community. This transparency means independent researchers can spot issues (and often report them for bounties). The project also likely has or will establish a bug bounty program to incentivize responsible disclosure of any vulnerabilities [OBJ]. These measures help catch and fix issues before they can be exploited.

Decentralized Governance & Multisig Safeguards: To mitigate centralization and issuer-related risks, ACX employs community governance. Key protocol parameters and changes are decided by ACX token holder votes, not unilateral team decisions [OBJ]. This reduces reliance on any single party's judgment and distributes control. To address the risk of governance capture or rash decisions, measures like timelocks are in place: any on-chain governance decision has a built-in delay before execution, allowing the community to review and, if needed, react (e.g., by forking or alerting if a malicious proposal passed) [OBJ]. The core contracts (like the upgradeable components or treasury) are held by a multisignature wallet with multiple trusted signers, rather than a single key [OBJ]. For example, Risk Labs' multisig might require 4 of 6 signatures to execute emergency changes, preventing a single rogue actor. Recently, Hart Lambur noted the foundation's directors have fiduciary duties and could be sued if funds are misused [OBJ], which adds a legal check on insider misconduct.

Fiduciary Structure of Issuer: Risk Labs being structured as a Cayman Foundation (non-profit with no shareholders) and Hart's statements that it operates under fiduciary obligations [OBJ] provide a governance framework to ensure the team's alignment with the project's success. While not foolproof, it means legally the foundation must act in the project's interest, and directors can be held accountable, thus mitigating risk of fund misappropriation or negligence. The foundation's transparent reporting (to the extent available) and community oversight over its ACX treasury usage (via DAO proposals) also mitigate issuer-related concerns [OBJ].

Insurance and Funds Reserves: The community might consider or already have insurance funds or coverage for certain risks. For instance, some projects maintain a “safety module” or insurance fund in case of hacks (sometimes funded by a portion of fees or by token reserves). It’s not specified here, but ACX governance could allocate some treasury tokens or fees to an insurance fund to compensate users in event of a breach – this would mitigate damage from potential hacks or technical failures. At the least, Across’s design isolates liquidity pools per asset, so a flaw in one asset’s handling doesn’t necessarily drain all others (segmentation). And by not using complex financial logic (like algorithmic pegs), certain risks (like cascade failures) are mitigated.

Rate Limits and Circuit Breakers: To address bridging and market risks, the contracts likely employ certain limits. For example, there may be caps on daily withdrawal volume per asset or per relayer, so that even if something goes wrong, losses are limited in scope. Also, an emergency pause function (governed by the multisig) is likely in place: if a vulnerability or exploit is detected, the team or governance can halt transfers temporarily to prevent further damage while a fix is developed. This function, used responsibly, mitigates ongoing hack risk – though it introduces centralization, it’s under multisig control to prevent abuse. Many DeFi projects use timelocked pause guardians as a safety measure.

Optimistic Oracle Security and Economic Incentives: The risk of fraudulent relayer claims is mitigated by UMA’s oracle design – any claim can be disputed, and UMA token holders are heavily incentivized (through monetary rewards) to vote honestly [OBJ]. The economic game theory suggests that an attacker would need to spend a massive amount (purchasing a majority of UMA tokens or bribing voters) to fool the oracle, likely more than what they’d gain by stealing from Across. Additionally, relayers might be required to put up a bond for each claim; if they’re caught in a lie, that bond is slashed. These incentives strongly discourage cheating, effectively mitigating many security issues with the bridging mechanism.

Diversification of Relayers and Decentralization of Operations: Over time, Across aims to have multiple independent relayers competing. This mitigates risk of reliance on any single relayer. If one relayer fails or behaves maliciously, others fill the gap. The code could also be open for anyone to run a relayer node, promoting decentralization (and indeed, documentation can encourage more participants). More relayers means a robust network where the failure of one doesn’t halt service. It also mitigates collusion risk, as a broad set of operators is harder to coordinate maliciously.

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 ACX Protocol operates on the Ethereum blockchain, which since its transition to proof-of-stake (PoS) no longer relies on energy-intensive mining. PoS models are generally considered less resource-demanding than proof-of-work systems, as they depend on validators staking assets rather than expending large amounts of computational power. That said, this does not imply the absence of environmental impact. The actual energy use depends on factors such as the number of validators, the type of hardware deployed, and the geographic distribution of nodes. ACX itself does not operate its own consensus network but is secured through Ethereum’s existing validator infrastructure. As such, any environmental footprint associated with ACX is tied to Ethereum’s overall PoS operations, which may still vary depending on adoption levels, validator practices, and network activity.

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	Across Protocol
S.4 Consensus Mechanism The consensus mechanism, as reported in field H.4	The crypto-asset's Proof-of-Stake (PoS) consensus mechanism, introduced with The Merge in 2022, replaces mining with validator staking. Validators must stake at least 32 ETH every block a validator is randomly chosen to propose the next block. Once proposed the other validators verify the blocks integrity. The network operates on a slot and epoch system, where a new block is proposed every 12 seconds, and finalization occurs after two epochs (~12.8 minutes) using Casper-FFG. The Beacon Chain coordinates validators, while the fork-choice rule (LMD-GHOST) ensures the chain follows the heaviest accumulated validator votes. Validators earn rewards for proposing and verifying blocks, but face slashing for malicious behavior or inactivity. PoS aims to improve energy efficiency, security, and scalability, with future upgrades like Proto-Danksharding enhancing transaction efficiency.
S.5 Incentive Mechanisms and Applicable Fees Incentive mechanisms to secure transactions and any fees applicable, as reported in field H.5	The crypto-asset's PoS system secures transactions through validator incentives and economic penalties. Validators stake at least 32 ETH and earn rewards for proposing blocks, attesting to valid ones, and participating in sync committees. Rewards are paid in newly issued ETH and transaction fees. Under EIP-1559, transaction fees consist of a base fee, which is burned to reduce supply, and an optional priority fee (tip) paid to validators. Validators face slashing if they act maliciously and incur penalties for inactivity. This system aims to increase security by aligning incentives while making the crypto-asset's fee structure more predictable and deflationary during high network activity.

S.6 Beginning of the period to which the disclosure relates	2024-05-18
S.7 End of the period to which the disclosure relates	2025-05-18
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	173.08876 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 regularly, 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	0.00000 kWh

Average amount of energy used per validated transaction	
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.