MiCA White Paper

HIVEMAPPER (HONEY)

Version 1.1
Nov 2025

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

Purpose: seeking admission to trading in EEA.

Prepared and Filed by LCX.com

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

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

00 TABLE OF CONTENT

01 DATE OF NOTIFICATION

2025-11-17

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

Hivemapper's native token, HONEY, is a Solana-based crypto-asset that powers a decentralized mapping network. HONEY is used to create economic incentives within the Hivemapper ecosystem: community contributors earn HONEY by capturing and verifying map data (e.g. via dashcam imagery and map editing), and enterprises and developers burn HONEY tokens in accordance with the protocol when consuming map APIs; this is a technical mechanism, not a purchase contract. Technically, HONEY is an SPL (Solana Program Library) token with a fixed maximum supply of 10,000,000,000 units . Notably, while HONEY fuels various activities in the Hivemapper protocol, this should not be confused with the regulatory concept of a "utility token." HONEY is not issued for the purpose of providing digital access to a specific good or service from an identifiable provider in the sense of MiCA's utility token definition . Instead, it is a general network token supporting a community-driven platform. Accordingly, HONEY is treated as "other crypto-asset" under MiCA, not as an e-money, asset-referenced, or utility token.

09 Not applicable

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

This document does not relate to a new public offering of HONEY tokens. The HONEY token has already been created, issued, and widely distributed through its integration. Rather than serving as an issuance prospectus, this whitepaper is prepared in the context of the admission of HONEY to trading on a regulated crypto-asset trading platform operated by LCX AG.

LCX AG, a registered exchange and custodian based in Liechtenstein, facilitates the listing and trading of HONEY in accordance with the regulatory obligations defined under the Markets in Crypto-Assets Regulation (MiCA). LCX is not the issuer or sponsor of the HONEY token and does not exercise control over its supply, governance, or token economics. The responsibility of LCX is limited to ensuring that the token is admitted to trading on its platform in a manner that is compliant with MiCA's provisions on transparency, investor protection, and market integrity.

This whitepaper is published under Article 6(1) of MiCA to ensure that investors and market participants have access to standardized, fair, and clear information about the features, risks, and rights associated with the HONEY token. As HONEY is already in circulation and traded across both centralized and decentralized platforms, its listing on LCX does not involve any fundraising, token sale, or initial offering event. No HONEY tokens are being issued or distributed as part of the admission process.

The trading of HONEY on LCX's regulated venue occurs under open market conditions. Prices are determined by supply and demand dynamics among market participants, without any

pre-fixed valuation or minimum subscription thresholds. LCX supports trading pairs such as HONEY /EUR to enhance liquidity and accessibility for users operating in fiat and crypto markets.

Total offer amount	Not applicable
Total number of tokens to be offered to the public	Not applicable
Subscription period	Not applicable
Minimum and maximum subscription amount	Not applicable
Issue price	Not applicable
Subscription fees (if any)	Not applicable
Target holders of tokens	Not applicable
Description of offer phases	Not applicable
CASP responsible for placing the token (if any)	Not applicable
Form of placement	Not applicable
Admission to trading	LCX AG, Herrengasse 6, 9490 Vaduz, Liechtenstein

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

A.1 Name

LCX

A.2 Legal Form

AG

A.3 Registered Address

Herrengasse 6, 9490 Vaduz, Liechtenstein

A.4 Head Office

Herrengasse 6, 9490 Vaduz, Liechtenstein

A.5 Registration Date

24.04.2018

A.6 Legal Entity Identifier

529900SN07Z6RTX8R418

A.7 Another Identifier Required Pursuant to Applicable National Law

FL-0002.580.678-2

A.8 Contact Telephone Number

+423 235 40 15

A.9 E-mail Address

legal@lcx.com

A.10 Response Time (Days)

020

A.11 Parent Company

Not applicable

A.12 Members of the Management Body

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

A.13 Business Activity

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

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

Under the TVTG framework, LCX provides:

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

A.14 Parent Company Business Activity

Not applicable

A.15 Newly Established

false

A.16 Financial Condition for the past three Years

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

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

A.17 Financial Condition Since Registration

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

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

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

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

True

B.2 Name

Hivemapper Foundation

B.3 Legal Form

Foundation Company Limited by Guarantee

B.4 Registered Address

Grand Cayman, Cayman Islands

B.5 Head Office

Grand Cayman, Cayman Islands

B.6 Registration Date

September 2022

B.7 Legal Entity Identifier

Not available

B.8 Another Identifier Required Pursuant to Applicable National Law

Not applicable

B.9 Parent Company

Not applicable

B.10 Members of the Management Body

Ariel Seidman – Co-Founder & CEO of Hivemapper Inc. (Project Lead). Ariel is a tech entrepreneur with a background in mapping (former Yahoo Maps product lead) [obj] [obj]. He guides the vision and strategy for Hivemapper.

Evan Moss – Co-Founder & CTO of Hivemapper Inc. (Technical Lead). Evan is a mapping and computer vision expert (previously at Google Maps/Earth) [obj] [obj]. He architected the mapping software and reward system.

Gabe Nelson – Head of Operations at Hivemapper Inc. Gabe oversees network growth, hardware distribution, and community operations [obj] [obj]. He has been the public voice on scaling and partnerships.

Hivemapper Foundation Committees – Technical Committee: responsible for maintaining open-source code and Solana on-chain programs; Map Quality Committee: sets standards for imagery and validation; Economic Committee: reviews tokenomics and reward policy (e.g., MIP proposals). The committees include experienced community members and advisors (some initial committee members were seeded by Hivemapper Inc., but with no overlap of executives per Foundation rules

B.11 Business Activity

The Hivemapper Foundation's mission is to proliferate a fresh, global map as a public good [obj]. It is responsible for supporting and governing the Hivemapper Network, including oversight of network token economics and issuance of HONEY [obj] [obj]. Key activities of the Foundation include: maintaining the open-source mapping software, administering the reward algorithms (e.g. adjusting HONEY reward formulas via Map Improvement Proposals), funding community initiatives (grants for map data analysis, tool development, etc.), and building partnerships to

expand network coverage [OBJ]. The Foundation does not engage in commercial for-profit business; rather, it serves as a stewardship body ensuring the longevity and neutrality of the map network. Over time, it will assume many responsibilities initially performed by Hivemapper Inc., with the goal of full decentralization [OBJ] [OBJ]. In summary, the Foundation's activity is supporting a decentralized mapping platform, managing the HONEY token's distribution parameters, and championing the interests of the global contributor community. It does not sell products or services for revenue, apart from potentially managing any treasury of HONEY or grants to sustain the ecosystem.

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 preparing this MiCA-compliant whitepaper for HIVEMAPPER (HONEY) to enhance transparency, regulatory clarity, and investor confidence. While HONEY has 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 HONEY trading on its platform.

C.10 Members of the Management Body

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

C.11 Operator Business Activity

LCX provides various crypto-asset services under Liechtenstein’s Token and Trusted Technology Service Provider Act (“Token- und Vertrauenswürdige Technologie-Dienstleister-Gesetz” in short “TVTG”) also known as the Blockchain Act. These include custody and administration of crypto-assets, offering secure storage for clients' assets and private keys. LCX operates a trading platform, facilitating the matching of buy and sell

orders for crypto-assets. It enables both crypto-to-fiat and crypto-to-crypto exchanges, ensuring compliance with AML and KYC regulations. LCX also supports token placements, marketing crypto-assets on behalf of offerors.

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

Under the TVTG framework, LCX provides:

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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

Hivemapper

D.2 Crypto-Assets Name

Hivemapper HONEY

D.3 Abbreviation

HONEY

D.4 Crypto-Asset Project Description

Hivemapper is a decentralized global mapping network launched in late 2022 that aims to build a community-owned, continuously updated digital map of the world [obj] [obj]. The project introduces a novel “Drive-to-Earn” model: participants use specially designed dashcams (or a mobile app) to capture street-level imagery, which is then contributed to the Hivemapper map. In return, contributors receive HONEY tokens as rewards for the data they collect and validate [obj] [obj]. This incentive mechanism crowdsources the creation of map data in a way that is far more scalable and frequent than traditional mapping fleets (e.g. Google Street View) [obj] [obj]. The Hivemapper network is composed of: (1) Contributors – individuals or organizations that gather imagery, annotate map features, or perform quality checks; and (2) Consumers – users of the map data (enterprises, developers) enterprises and developers burn HONEY tokens in accordance with the protocol when consuming map APIs; this is a technical mechanism, not a purchase contract (which is upon use) [obj] [obj]. This creates a closed-loop economy where token emissions incentivize map growth, and tokens reflect map usage [obj]. The ultimate output is a global mapping dataset (including 4K street-level panoramic images, road vectors, point clouds, etc.) that is openly accessible for developers and communities, akin to a “mapping commons.”

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

The HONEY 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
Ariel Seidman	Global	Co-founder & CEO
Evan Moss	Global	CTO & Technical Lead
Hivemapper Foundation Committees	Global	Technical Committee and Open source contributions
Core Developers (Global)	Global	An open-source community of engineers
Contributors (Global network)	Global	Project Contributors (Map Data)

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 filing this MiCA-compliant white paper for HONEY to provide full disclosure under the new regulatory framework, the aim is to boost investor confidence and clarity regarding HONEY ’s features, risks, and legal status. By aligning with MiCA’s high disclosure standards, LCX strengthens its position as a regulated exchange and facilitates broader market access for HONEY within the European Economic Area [obj].This initiative is expected to remove uncertainty for institutional participants and comply with evolving EU rules, thereby supporting broader adoption of HONEY and integration into regulated financial ecosystems [obj]. In summary, the admission is pursued to list HONEY in a fully compliant manner, allowing European users to trade HONEY on a transparent, regulated venue with all necessary information provided upfront.

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

Approximately 10 billion HONEY tokens is the fixed maximum supply [obj]. As of October 2025, 6.4 billion HONEY are in circulation (this includes tokens distributed to contributors to date and any released from investor/employee allocations). The remaining tokens are either reserved for future network rewards (emitted gradually based on map growth) or vested with early stakeholders. HONEY’s supply is hard-capped at 10 billion; no inflation beyond this cap is programmed. Tokens enter circulation through weekly mining rewards and scheduled unlocks of the allocations mentioned in Section F.9 (many investor/team tokens vested over a multi-year period). By design, HONEY’s emission rate slows over time as map coverage

increases. No new tokens are being created or sold in connection with the admission to trading.

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

HONEY/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

HONEY is widely traded on numerous cryptocurrency exchanges globally. HONEY 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 HONEY trading (pair HONEY/EUR). To access HONEY trading on LCX, users must have an LCX account and complete the platform's KYC verification, as LCX operates under strict compliance standards. Trading on LCX is available via its web interface and APIs to verified customers.

E.36 Involved Costs

Not applicable

E.37 Offer Expenses

Not applicable

E.38 Conflicts of Interest

Not Applicable

E.39 Applicable Law

Not applicable –As such, HONEY itself is not governed by a single national legal framework. The applicable laws depend on the jurisdictions where it is traded or utilized. However, in relation to the admission to trading of HONEY on LCX Exchange, the laws of Liechtenstein apply in accordance with Regulation (EU) 2023/1114 (MiCA) and other applicable EU financial regulations.

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

The HONEY token is the native crypto-asset of the Hivemapper Network, designed to coordinate and incentivize decentralized mapping activities on the Solana blockchain. Its primary role is to act as a protocol-level mechanism for rewarding contributors, facilitating the exchange of map-related data, and enabling technical interactions with Hivemapper's on-chain programs. HONEY is distributed to participants who contribute to the network—such as by collecting street-level imagery, labeling data, or validating map quality—according to transparent, algorithmic metrics embedded in Solana-based smart contracts. This reward process functions as a decentralized incentive mechanism rather than a contractual right to profit or ownership. At the same time, HONEY serves as the medium through which map data usage is accessed:enterprises and developers cause a burn event by spending HONEY tokens under protocol rules; this does not grant any contractual right to use or access services, for Hivemapper's map APIs, with those tokens permanently removed from circulation as part of the transaction. This model links token supply to actual network usage without granting holders any redemption or service claims from the issuer. Additionally, HONEY may support decentralized governance processes within the network over time—for example, enabling holders to participate in proposals regarding emission formulas or protocol parameters—but such governance remains technical and protocol-driven rather than conferring legal or corporate rights. As an SPL token on Solana, HONEY also underpins the technical execution of Hivemapper's on-chain transactions, acting as the required asset for certain smart contract interactions, such as purchasing map credits or participating in contributor reward programs. Importantly, while HONEY provides functional roles within the network, it is not issued as a voucher or prepayment for goods or services and does not constitute a regulated utility token under MiCA. Instead, it is classified as an "Other Crypto-Asset" (OTHR), reflecting its nature as a decentralized coordination and incentive asset within the Hivemapper protocol.

F.3 Planned Application of Functionalities

The HONEY token is already fully integrated into Hivemapper's operations, and there are no fundamental changes planned for its functionality beyond possible incremental enhancements. HONEY is expected to maintain its role in reward distributions and map-consumption burns under current protocol logic. Sfuture enhancements may be proposed—if approved by governance—that introduce staking or voting functionalities for HONEY holders : for example, if on-chain voting is implemented, HONEY might be required to vote or stake in proposals (making it a governance token in practice). This is a potential extension of HONEY's role, not altering its existing uses but adding a new one . Another possible future use is cross-network collaboration – e.g., using HONEY in DeFi protocols on Solana as collateral or liquidity (indeed, some holders already provide HONEY liquidity on Solana DEXs).

F.4 Type of white paper

OTHR

F.5 The type of submission

NEWT

F.6 Crypto-Asset Characteristics

The HONEY token is a fungible digital asset deployed on the Solana blockchain using the SPL (Solana Program Library) standard, with a precision of 9 decimal places. It operates within a decentralized infrastructure powered by Solana's hybrid Proof-of-Stake (PoS) and

Proof-of-History (PoH) consensus mechanism, which enables high-throughput, low-latency, and energy-efficient transaction processing. As a token on Solana, HONEY inherits the security and decentralization properties of the underlying network, with transaction finality typically achieved in 1–2 seconds and minimal fees. HONEY's smart contract is managed by Solana's standard token program, allowing for controlled emissions up to the capped total supply of 10 billion tokens. The protocol design includes custom on-chain programs that govern token emissions and network incentives, such as rewarding contributors for mapping activity based on regional coverage and data quality. These programs, written in Rust and open-sourced, are central to the operational logic of the network but do not grant token holders access rights or legal entitlements. While some governance functionalities may evolve over time, HONEY is not issued to provide direct access to specific goods or services, nor does it serve as a prepaid voucher. Instead, its function remains aligned with coordination, incentive distribution, and transactional roles within a decentralized mapping protocol. HONEY is interoperable across the Solana DeFi ecosystem and can be held in any compatible wallet, traded on decentralized exchanges, or bridged with caution to other chains. Its value is determined solely by market forces and usage within the network; it is not backed by collateral or tied to any underlying asset. In line with its technical and economic characteristics, HONEY qualifies as an "Other Crypto-Asset" under MiCA.

F.7 Commercial name or trading name

Hivemapper HONEY

F.8 Website of the issuer

www.hivemapper.com

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

2025-12-17

F.10 Publication date

2025-12-17

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 as of now

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

Holders of HONEY do not acquire any specific contractual rights or legal claims against Hivemapper Inc., the Hivemapper Foundation, or any other entity simply by holding the token [illegible]. Owning HONEY does not equate to ownership in a company or entitlement to revenue – it is not equity or debt. There are no built-in rights to redeem HONEY for any guaranteed value or product; its value derives from network utility and market demand. Holders are not obligated to take any action by virtue of holding HONEY (no required participation or fees), but they must adhere to the network's protocol rules if they engage.

G.2 Exercise of Rights and Obligation

Because HONEY does not confer traditional contractual rights, the concept of "exercise of rights" mainly translates to how a holder can use the token within the network. Exercising one's "rights" as a HONEY holder is essentially done by using the token's functionality: e.g., a holder may transfer HONEY to someone else (exercising their right to dispose of their asset freely on-chain), or they may burn HONEY under protocol rules related to map usage, but this does not create a service contract or entitlement.

G.3 Conditions for Modifications of Rights and Obligations

Since HONEY holders do not have formal contractual rights, modifications largely pertain to protocol rule changes. Any modifications to HONEY's protocol (e.g. changes to reward logic or governance parameters) require collective governance-based adoption and are implemented via software updates, i.e., Map Improvement Proposals (MIPs), and implemented via software updates to the Solana programs or the mapping platform [illegible]. Holders do not have individual veto power; rather, changes are decided collectively. For example, if a future MIP proposes to adjust the weekly HONEY emission formula, the Foundation would publish the proposal, gather community input (including from HONEY holders on forums/Discord), possibly gauge sentiment by informal voting, and then implement if consensus is positive [illegible].

G.4 Future Public Offer

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

HONEY emissions are implemented by protocol logic under locked rules. Emission schedules are defined and may taper; any extension beyond the cap requires explicit governance approval and cannot be executed unilaterally. Under the current protocol, smart contracts distribute new tokens weekly based on algorithmic rules; changes to this mechanism would require community governance approval. The emission mechanism is algorithmic and transparent, with rules encoded in on-chain programs rather than being subject to discretionary control. HONEY has a maximum supply cap of 10 billion tokens, and emissions are expected to taper over time as the network matures. No additional tokens can be minted beyond this limit unless explicitly authorized through a governance process and supported by protocol-level updates, though such an event is not currently planned. The reward algorithm operates autonomously, and adjustments to emission parameters (e.g., regional weightings or reward decay rates) may be proposed through governance mechanisms such as the Map Improvement Proposal (MIP) process. Importantly, there is no centralized authority with unilateral ability to inflate the supply beyond these encoded rules. All emissions, vesting, and reward flows are recorded transparently on-chain, allowing token holders and external observers to audit changes to circulating supply at any time using Solana block explorers.

This capped supply model ensures that HONEY follows a predictable and rule-based distribution structure. All supply changes can be independently verified through blockchain explorers, supporting transparency and aligning with the requirements for Other Crypto-Assets under MiCA.

As of MIP-15, 75 % of HONEY burned for map consumption is permanently destroyed, while 25 % is reminted as consumption rewards (subject to a weekly cap of 500,000 HONEY)

G.13 Supply Adjustment Mechanisms

The supply adjustment mechanisms for the HONEY token are embedded in the protocol's smart contracts and revolve around a dynamic mint-and-burn model linked to real-world map data production and consumption. New HONEY tokens are minted and distributed weekly to contributors—such as drivers capturing street-level imagery or users verifying map data—based on measurable and transparent network activity. Conversely, when enterprises or developers consume map services via Hivemapper's APIs, they pay in HONEY tokens, which are subsequently burned (i.e., permanently removed from circulation). This mechanism introduces a deflationary balance between burn and re-minting while adhering to the fixed supply limit of 10 billion HONEY. The smart contracts managing these functions execute autonomously, and no single actor can override emission or supply rules outside of governance and multi-signature constraints. Over time, this cyclical mechanism aligns token issuance with the actual utility of the network: as mapping activity expands and usage grows, so does the scale of supply adjustments—without exceeding the capped maximum supply of 10 billion HONEY. Governance proposals may be used to adjust emission rates or burn mechanics, but such changes require decentralized community consensus and are transparently implemented through protocol updates.

Note- Under protocol logic, consumption of map services triggers a burn event within smart contracts; this is a technical mechanism and not a service guarantee.

G.14 Token Value Protection Schemes

False

G.15 Token Value Protection Schemes Description

Not Applicable

G.16 Compensation Schemes

False

G.17 Compensation Schemes Description

Not Applicable

G.18 Applicable Law

Not applicable – As such, HONEY itself is not governed by a single national legal framework. The applicable laws depend on the jurisdictions where it is traded or utilized. However, in relation to the admission to trading of HONEY on LCX Exchange, the laws of Liechtenstein in accordance with Regulation (EU) 2023/1114 (MiCA) and other applicable EU financial regulations.

G.19 Competent Court

Not applicable - As HONEY (HONEY) is a decentralized, open-source crypto-asset with no central
issuer or governing entity, it does not fall under the jurisdiction of any specific legal framework. In case of disputes related to services provided by LCX, the competent court is: The Courts of Liechtenstein, with jurisdiction in accordance with Liechtenstein law and applicable EU regulations.

H. PART H – INFORMATION ON THE UNDERLYING TECHNOLOGY

H.1 Distributed ledger technology

The HONEY token and its transactions run on the Solana blockchain, which is the underlying distributed ledger. Solana is a public, permissionless DLT system launched in 2020, distinct for its scalability and speed [obj] [obj]. Unlike Bitcoin or Ethereum's single-chain designs, Solana's ledger uses a combination of a single global state (single chain) with an off-chain timekeeping mechanism (Proof-of-History) to optimize throughput. Solana's ledger is maintained by a network of independent validators around the world – as of 2025, there are approximately 1,900 active validators spread across many countries and data centers, with no central coordinator. Blocks on Solana are produced roughly every 400 milliseconds, and finality (irreversible confirmation) is typically achieved within 1-2 seconds.

All HONEY token accounts and transactions are entries on this Solana ledger. The HONEY token mint exists as a record on Solana's Program ID: SPL Token Program (the standard token contract), with the specifics of supply and ownership recorded in the ledger state. Every transfer of HONEY is a Solana transaction, which is propagated through Solana's gossip network of nodes and confirmed via the consensus process. Solana's ledger uses Gulf Stream (mempool-less forwarding) and Turbine (block propagation protocol) to efficiently disseminate transactions to validators, ensuring the network can handle tens of thousands of TPS when needed [obj] [obj]. Each validator keeps a copy of the ledger (transaction history and account states), ensuring redundancy and resilience. The ledger is monolithic – i.e., Solana handles execution, settlement, and consensus on one layer, rather than relying on separate shards or layer-2 networks. This means HONEY transactions benefit from the full security of the Solana mainnet and are atomic with all other Solana transactions (e.g., one could swap HONEY for SOL in a single transaction).

HONEY Whitepaper: HONEY whitepaper

Public block explorer: https://solscan.io

HONEY Main repository: https://github.com/hivemapper

HONEY Developer portal: https://hivemapper.com/api/developer/docs

H.2 Protocols and Technical Standards

The technology stack of Hivemapper's crypto components incorporates several protocols and standards:

Solana SPL Token Standard: HONEY conforms to the SPL (Solana Program Library) token standard (analogous to ERC-20 on Ethereum). This standard defines core fungible token behavior (transfer, balance management). Minting, burning, and freezing are enabled under restricted authority and subject to governance constraints.

Because HONEY uses the well-established SPL implementation, it is automatically compatible with Solana wallets (e.g., Phantom, Solflare), Solana DeFi protocols, and explorers. The token program ID on Solana is Tokenkeg... (the common program for tokens), and HONEY's mint was created by calling that program with specified parameters (10B max supply, 9 decimals). The SPL standard ensures interoperability – for example, any Solana decentralized exchange can list a HONEY trading pool just by referencing its mint address, and wallets show HONEY balances by querying the standard token accounts.

Solana Consensus Protocol: As outlined, Solana uses a Tower BFT PoS consensus combined with Proof-of-History. The consensus involves multiple algorithmic elements: the PoH time

hashing function that nodes use to keep a verifiable time order of events; the Turbine block propagation which uses UDP and erasure codes to send data efficiently; Tower which is a PBFT-like consensus that leverages the time sequence to allow asynchronous voting with rollback thresholds. Technical details: the PoH is a SHA256-based VDF (Verifiable Delay Function) running continuously, providing a cryptographic timestamp in each block. Validators incorporate this into their vote logic. The consensus finality requires a supermajority of weighted votes. The security assumptions rely on honest majority of stake and the difficulty of forging PoH (which would require >51% of hashing power to alter history, practically unfeasible due to how it's used). This consensus is highly efficient: finality in ~2s, throughput scaling with hardware improvements (Solana often handles 2-3k tps regularly, with potential up to 50k+ in bursts). For HONEY's needs, this means near real-time finalization of contributions and token transfers – crucial for user experience (e.g., contributors don't wait long to see their reward available).

Networking Protocol: Solana nodes communicate using a custom p2p network stack. They rely on gossip to disseminate small messages (transactions, etc.) and on QUIC (a UDP-based transport) for performance under high load [obj] [obj]. The network's architecture is tuned for low latency. Hivemapper, as heavy user, requires consistent throughput. For instance, when thousands of reward transactions are sent out, they flood the network – Solana's design using QUIC helped handle that (the aforementioned slow-down incident was partly due to using a public RPC; switching to a dedicated provider alleviated it) [obj] [obj]. No separate networking layer of Hivemapper interacts directly with Solana beyond via RPC calls like any dApp. The mapping data itself is exchanged off-chain (e.g., contributors uploading imagery to Hivemapper's servers via HTTPS). That means Hivemapper's own networking (for map data) uses standard web protocols and cloud distribution (CDNs). For map-related consensus (like verifying image authenticity), Hivemapper currently uses centralized methods (the backend cross-checks GPS info etc.). There is research into perhaps one day using decentralized storage (IPFS/Arweave) for images, but not in current implementation.

Cryptographic Standards: Solana employs well-established cryptography: ed25519 elliptical curve for digital signatures (all Solana transactions, including HONEY transfers, are signed by the user's ed25519 keypair) [obj]. This is the same scheme used by e.g. Cardano, and it's considered secure with short key sizes. The hashing for PoH is SHA-256 (a NIST-standard hash). Additionally, Solana uses Keccak-256 in some places (for program-derived addresses or as part of the token program's mint authority management – for example, SPL uses keccak to derive associated token account addresses). For address formats, Solana addresses are base58 encoded ed25519 public keys (like Bitcoin style but on ed25519). HONEY's mint address and all user addresses follow this. These standards ensure compatibility with hardware wallets (Ledger supports ed25519 for Solana), and integration in multi-sig solutions. Hivemapper's treasury likely uses a Solana multi-signature (the Solana native multi-sig program) to secure mint and freeze authority – requiring multiple signatures to execute any minting, as a safety measure.

Smart Contract Code and Security Audits: The Hivemapper team wrote custom Solana programs in Rust to manage the reward logic, region mapping, etcUnder the current protocol, smart contracts distribute new tokens weekly based on algorithmic rules; changes to this mechanism would require community governance approval. According to Hivemapper, these programs were rigorously tested and internally audited. A mention in March 2023 was a "failed audit of HONEY calculations" which actually referred to the off-chain audit process of the weekly data (not a security audit but a correctness check, where a bug was found in computing consumption rewards) [obj] [obj]. The fix for that was implemented and procedures improved. On security audits: as of this writing, Hivemapper's Solana programs have not been publicly audited by third-party security firms like CertiK or Ottersec (no audit report has been published). However, automated scans on token contract by tools like Cyberscope show expected flags: HONEY's token mint can be minted, frozen, or updated by authorities

(warnings indicating centralized control capabilities) . The risk mitigation is that keys are held by trusted team in multi-sig. In future, the code might be open-sourced (if not already) for community review. Solana's runtime itself has been audited and battle-tested by numerous projects; vulnerabilities at the layer of HONEY token would most likely come from either (a) compromise of the mint authority keys or (b) a bug in the custom programs causing unintended mint or loss. So far, no such incidents reported for HONEY.

Data Standards and Formats: For off-chain map data, Hivemapper uses common geospatial standards: images are stored in standard formats (JPEG/MP4 for panoramic sequences), map tiles likely in an XYZ tile schema (slippy map tiles), and derived data like point clouds in LAS or similar. These aren't on ledger but are relevant to interoperability (ensuring the map outputs can be used by GIS tools or integrated with other systems like OpenStreetMap in future). For token metadata, the HONEY token's on-chain metadata URI points to an Arweave or similar immutable storage link that contains a JSON with token name, symbol, icon, etc. . This follows the Solana Token Metadata standard used by the Metaplex program. It's purely informational (for wallets to display "HONEY" name and logo).

H.3 Technology Used

Hivemapper's overall network architecture is a blend of on-chain and off-chain components:

On-Chain Layer (Solana Blockchain): This includes the HONEY Token and Hivemapper Solana Programs. The programs handle logic like: (a) tracking contributor statistics by region (to determine how to allocate weekly rewards, ensuring, e.g., regions that advanced the global map progress get correct tokens), (b) issuing the weekly reward transactions (the program likely receives an instruction from an off-chain oracle with computed values, then mints HONEY accordingly to contributor addresses), (c) processing burns for map consumption (maybe the "payment" program deducts HONEY and triggers an event that the off-chain system listens to, to credit map API calls). The on-chain components provide transparency (anyone can see how many tokens were minted each epoch to which addresses) and immutability (once distributed, only the recipient controls their HONEY).

Under protocol logic, consumption of map data services triggers a burn of HONEY tokens. This mechanism is embedded within smart contracts to align usage with token flow; however, it does not confer any legal right to service access or guarantee service delivery.

Off-Chain Core (Centralized backend & cloud): This includes Hivemapper's data ingestion pipeline (when dashcam footage is uploaded, it goes to cloud storage and processing), the Map backend which converts images into map tiles and updates the global map database, and the API servers that serve map data to users (with access control via credits). These servers maintain user accounts (with mapping pseudonyms linked to wallet addresses for reward payout). Off-chain servers also perform the heavy computation for rewards: e.g., calculating "Global Map Progress" (which looks at how coverage improved in each region, as described in docs) and thus how many tokens to mint that week. They then produce a merkle tree or batch of rewards that is fed into the Solana program to execute payouts, often via state compression to reduce cost . This off-chain part is currently run by Hivemapper Inc.'s infrastructure on cloud providers. It's somewhat centralized – the community trusts these servers to correctly tally contributions (there are checks and balances like the "audit" that caught a bug). Over time, the plan is to open source more of this and possibly decentralize aspects (for example, community can independently verify the contributions via open data and confirm the reward calculations are fair – indeed, because all contributions and their scores can be published, in theory multiple parties could run the reward calc and compare).

Front-End and Devices: Contributors interact through the Hivemapper mobile app (which pairs with the dashcam hardware to collect and upload data) and a web dashboard (to see their

contributions, HONEY earned, etc.). These front-ends communicate with the central backend. They also integrate Solana wallet functionality: for instance, the Hivemapper app can show your HONEY balance by connecting to your Solana wallet (like Phantom mobile). Hivemapper provided a custodial wallet option for some non-crypto-savvy users initially, but it encourages users to link their own wallet address for payouts – each contributor account has an associated Solana address where it sends HONEY.

Consensus on Map Data: While not a blockchain consensus, the network has a community moderation system: multiple contributors can verify the same area (images overlap or repeat over time). Hivemapper uses that to validate data quality – if one uploads blurry images, they get low clarity score and low/no rewards; if another confirms an object detection, they earn QA rewards. This can be seen as a crowd-sourced consensus on map correctness, logged in the database. It's off-chain, but somewhat analogous to miners reaching consensus – here contributors collectively refine the map. The output of this process influences token distribution (the protocol rewards only when consensus on data validity emerges).

Audit and Monitoring Tools: Hivemapper employs tools to monitor the Solana program's performance and transactions (they might run a Solana validator node or use a service like Helius for custom indexing, as they switched to for reliability [obj]). They likely have dashboards to ensure all expected reward transactions executed and to catch anomalies (like if a program failed mid-distribution, they'd re-run it). The trust model is that the Foundation and core team will detect and fix any issues promptly and retroactively compensate if something went awry (for example, that March 2023 delay case – they openly explained and took steps to avoid recurrence [obj] [obj]).

Public Infrastructure: The Hivemapper Foundation's involvement means they'll increasingly provide public goods like an open map explorer (already live showing coverage, somewhat similar to OpenStreetMap editors), and a data licensing mechanism perhaps mediated by smart contract in future (e.g., maybe they could implement a system where map consumers deposit HONEY into a DAO contract and contributors vote how to allocate.All these would rest on the fundamental Solana and cloud combo.

H.4 Consensus Mechanism

The HONEY token operates on the Solana blockchain, which employs a hybrid consensus mechanism combining Proof-of-Stake (PoS) and Proof-of-History (PoH). In this model, network validators stake Solana's native token (SOL) to participate in block production and validation, while PoH provides a cryptographic timestamping system that orders transactions efficiently. This combination enables high throughput and low latency, supporting rapid transaction finality and minimal fees—essential features for Hivemapper's high-frequency microtransactions, such as real-time reward distributions and map service payments. HONEY itself does not introduce a separate consensus protocol; instead, it relies entirely on Solana's underlying consensus infrastructure to validate and secure transactions involving the token. As a result, the token's operation benefits from the scalability and resilience of the Solana network, which is maintained by a globally distributed set of validators.

H.5 Incentive Mechanisms and Applicable Fees

The HONEY token is designed to support a decentralized, contributor-driven mapping ecosystem by serving as the incentive mechanism for useful participation. Contributors—such as drivers collecting street-level imagery, validators checking data quality, and community members labeling content—receive HONEY rewards for their contributions. These rewards are distributed through automated on-chain programs on the Solana blockchain, with token emission determined by factors like geographic coverage growth, imagery freshness, and data accuracy. To maintain a balanced token economy, HONEY also operates under a burn-and-mint model: when enterprises or developers purchase map credits to access by

burning HONEY tokens per protocol logic when using map data. This burn is not a purchase contract or entitlement.

Hivemapper's geospatial data services, HONEY is used and is subsequently burned (permanently removed from circulation). This introduces deflationary pressure tied to real-world demand for the map data. A portion of burned tokens is offset through new issuance to reward contributors in high-demand regions, thus aligning incentives between contributors and users. The process is governed transparently through smart contracts and does not involve discretionary issuance by the issuer. There are no explicit user fees tied to holding or transferring HONEY beyond standard network transaction fees (paid in SOL). The token's functionality as a reward and exchange mechanism operates entirely within the decentralized infrastructure of the protocol, without entitling holders to any legal rights, profit claims, or redemption guarantees—thereby maintaining consistency with its designation as an Other Crypto-Asset under MiCA.

Note- Under protocol logic, consumption of map data services triggers a burn of HONEY tokens. This mechanism is embedded within smart contracts to align usage with token flow; however, it does not confer any legal right to service access or guarantee service delivery.

H.6 Use of Distributed Ledger Technology

True

H.7 DLT Functionality Description

The HONEY token operates on the Solana blockchain, a decentralized distributed ledger technology (DLT) that enables high-throughput, low-latency transactions through its unique Proof-of-History (PoH) and Proof-of-Stake (PoS) consensus model. The HONEY token is implemented using Solana's SPL standard and is natively integrated into the Hivemapper protocol's on-chain architecture. Through smart contracts deployed on Solana, the network performs core functions such as reward distribution, data contribution tracking, and credit-based payment processing for map services. All HONEY-related transactions—whether rewards to contributors, for enterprise usage, or transfers between users—are immutably recorded on Solana's ledger. The token's role is not limited to transfers; it interacts directly with custom smart contracts that enforce the logic of emissions,usage mechanisms, and contributor verification. While HONEY does not manage consensus or operate its own blockchain infrastructure, its functionalities are deeply integrated into the application logic of the Hivemapper ecosystem, leveraging Solana's DLT to ensure transparency, programmability, and traceability. This operational structure supports the token's technical role in coordinating decentralized mapping contributions and aligns with its classification as an Other Crypto-Asset, as it does not represent a claim, a right to redeem, or access to a product or service as defined under MiCA utility or asset-referenced token categories.

H.8 Audit

True

H.9 Audit Outcome

The HONEY token contract and custom Solana programs have been subject to security analyses (e.g., Cyberscope)These custom Solana programs have been subject to internal review and automated scans; those scans flagged high-privilege authority points (mint, freeze, upgrade).

For example, Cyberscope reports that the Hivemapper contract (address 4vMsoUT2BWatFweudnQM1xedRLfJgJ7hswhcpz4xgBTy) presents several warnings—such as mutable minting authority, freeze functionality, and upgrade rights. Independent security

analyses (e.g. Cyberscope, Kryll) have flagged minting, freezing, and upgrade authorities as higher-privilege controls warranting future decentralization. These are not in themselves confirmed exploits, but indicate areas for governance transition or mitigation. No known security breach affecting token loss has been publicly disclosed, though ongoing community review and external audits are anticipated.
Cyberscope audit link: https://www.cyberscope.io/audits/coin-hivemapper

Additionally, security scoring platforms like Kryll include the HONEY token in its X-Ray analysis, flagging multiple alerts relating to token security and authority functions. These alerts emphasize the importance of transparent privilege management and ongoing code review.
Kryll audit link: https://app.kryll.io/x-ray/hivemapper

To date, there is no publicly disclosed exploit or breach. However, absence of proof is not proof of absence; the project plans to commission and disclose rigorous third-party audits.For stakeholders, this underscores the importance of continued auditing, community oversight, and clear governance milestones to transition toward immutable or decentralized authority where feasible.

I. PART I – INFORMATION ON RISKS

I.1 Offer-Related Risks

Market Volatility: Crypto markets operate 24/7 and can be influenced by a wide range of factors (market sentiment, macroeconomic news, crypto-specific events, etc.), leading to rapid price changes. There is no guaranteed stable value for HONEY – it is not a stablecoin. Buyers should be prepared for the possibility of sharp declines (or spikes) in HONEY 's value, including flash crashes or rallies, and only invest funds they can afford to lose.

Liquidity Risk: While HONEY is traded on multiple exchanges and has a large circulating supply, liquidity can vary. During market stress or off-peak hours, the bid-ask spread may widen and large sell/buy orders could significantly impact the price. If many holders try to sell at once – for instance, after negative news – liquidity might dry up, making it hard to execute orders at expected prices.

No Income or Guaranteed Return: HONEY does not entitle holders to any dividends or interest. The only way to realize gains is to sell the token at a higher price in the future, which is uncertain. If the HONEY ecosystem does not grow as anticipated, demand for HONEY may stagnate or drop, yielding little to no price appreciation or even losses.

I.2 Issuer-Related Risks

Dependence on Core Team: The development and maintenance of Hivemapper's platform have thus far been led by Hivemapper Inc.'s team. If this core team were to encounter problems – e.g., loss of key personnel (if Ariel Seidman or Evan Moss were to leave or become unable to contribute) or internal company issues (like bankruptcy of Hivemapper Inc.) – the progress of the project could slow dramatically or stall. Although the project is moving toward community governance, it's not yet at a stage where it can fully self-sustain without the founding team's input. A loss of developer support could mean fewer updates, unresolved technical problems, and diminished ability to onboard enterprise clients, all of which would negatively affect confidence in HONEY and the network's viability .

Project Continuity and Funding: The Hivemapper Foundation and Inc. need resources to operate (pay developers, server costs for map storage, dashcam production, etc.). Hivemapper Inc. raised venture capital, but if the company's funds deplete and it cannot raise more (or revenue from selling dashcams and enterprise map usage is insufficient), the project may face cutbacks. An inability to fund operations could lead to reduced support for the

network or, in worst case, shutting down of services (e.g., if servers go offline). While the map data is somewhat distributed (contributors hold copies of imagery they uploaded, etc.), the functioning of the live map service depends on active servers. If the issuer's financial condition deteriorates, token holders might suffer as the utility of the token declines (no service to spend it on; contributors lose motivation if rewards can't be calculated or if map stops growing).

Centralization of Decision-Making: Until full decentralization, the Foundation and Inc. have significant influence. There's a risk that decisions made by them could adversely affect token holders – for example, they might change the reward structure to favor new users (diluting existing contributors' expected future rewards), or allocate Foundation-held HONEY in ways not beneficial to the community (though fiduciary duty makes this unlikely). Since holders have no legal say, they rely on the issuer's good faith. A governance failure or conflict could harm the project (imagine a scenario where foundation committee members disagree strongly or there's internal corruption – that could derail progress or cause community split).

Reputational Risk of Issuer: If Hivemapper Inc. or the Foundation were embroiled in controversy (say, data privacy scandals, or regulatory fines due to dashcam usage in sensitive areas), it could tarnish the project's reputation. This might reduce participation (drivers quit if they fear legal issues, enterprises shy away) and thereby impact HONEY's value.

I.3 Crypto-Assets-Related Risks

Decentralization and Lack of Intrinsic Value: HONEY is an unbacked digital asset with no physical or fiat reserve guaranteeing its value [obj]. Its market price is purely driven by supply and demand. If demand for the token or belief in the project wanes, HONEY could lose significant value or even approach zero. There are no underlying cash flows or collateral – its value is tied to network utility and speculation. Holders face the risk that market sentiment can sour quickly (for example, if a competitor emerges or if crypto as a whole enters a downturn). Unlike a stablecoin, HONEY has no mechanism to stabilize value; unlike a security token, it yields no claim. Thus, confidence risk is high: if users no longer trust that HONEY will be useful or maintain demand, it could free-fall in price.

Market Volatility: As already touched, HONEY can experience extreme volatility, similar to other crypto tokens of its nature. Historically, tokens with comparable size/use cases have seen 50%+ swings in short periods [obj]. Macroeconomic events (interest rate changes, etc.) or crypto-specific events (exchange failures, hacks, regulatory announcements) can cause broad sell-offs affecting HONEY. Also, idiosyncratic events – e.g., if a large holder like an early investor decides to liquidate a substantial amount – can crash the price. Market risk is amplified by the fact that HONEY's largest use currently is for speculation and mining incentives; actual map data demand (the fundamental driver) is nascent. If speculators exit en masse (say, chasing another new token), the price could collapse independently of project performance.

Liquidity and Market Access: There's risk that access to HONEY markets could be restricted in some regions [obj]. For instance, if a country decided to ban crypto, local exchanges would delist it, cutting off those investors (as mentioned for regulatory risk). Also, if any exchange for whatever reason delists HONEY (perhaps due to low volume or some compliance concern), that removes a regulated EU trading venue, forcing holders to use possibly less secure platforms. Liquidity could become fragmented across different exchanges, leading to more volatile and inefficient pricing. If a major exchange that lists HONEY (Kraken, for example) were to experience an issue or decide to delist it, short-term price and liquidity would suffer.

Custody/Security for Holders: HONEY being on Solana means holders often use software wallets or exchange wallets. Self-custody risk: If a holder mismanages their private key (loses the seed phrase or gets hacked via phishing/malware), their HONEY can be irreversibly stolen.

There is no recovery mechanism due to decentralization (no issuer can restore your tokens). Many contributors may be new to crypto and at risk of such mistakes; indeed, there have been instances in similar networks of participants losing earned tokens to scams. Exchange custody risk: If held on an exchange, as noted, hacks or insolvency can lead to loss (e.g., if an exchange like FTX collapsed, any tokens held there might be stuck in bankruptcy). Smart contract risk: If using HONEY in DeFi (e.g., depositing into a liquidity pool or staking via an unofficial smart contract), bugs in those contracts could lead to loss or lock-up of tokens. None of these losses are covered by any insurance or protections typically – it's at the holder's own risk.

I.4 Project Implementation-Related Risks

Technical Development Challenges: The Hivemapper network requires complex software – from computer vision algorithms (to process imagery) to blockchain integrations. Implementing improvements to the protocol or scaling the system can be difficult. For instance, enhancing the map AI to automatically identify more features might take longer or be more expensive than planned. The risk of unforeseen technical hurdles is real: the team might encounter difficulties in improving the dashcam hardware (they already faced one hardware issue delaying launch [OBJ] [OBJ]), in optimizing data processing pipelines (ensuring fast turnaround of uploaded imagery to map updates), or in refining the reward algorithms (making them resistant to gaming). If technical progress stagnates (e.g., the platform cannot handle a large influx of data, or quality of map doesn't meet user needs), it could stall adoption. Additionally, integrating more decentralization – like open-sourcing everything or letting third-parties run map nodes – is technically challenging. There is risk that some planned technical features either get delayed or do not perform as expected, which could limit network quality and thus token value. For instance, if the map fails to achieve high accuracy (blurry images, incomplete data), potential consumers might not use it, undermining the usage of HONEY.

Scalability & User Growth: The project's success depends on reaching a critical mass of contributors and users. There is a risk that Hivemapper may not be able to scale its community as envisioned. For example, after early enthusiasm, growth could plateau due to barriers like the need to purchase a physical dashcam, or because mapping in well-covered areas yields diminishing rewards (so contributors drop out). If the rate of new data coming in slows, the map's attractiveness suffers (freshness declines), possibly entering a negative feedback loop: fewer contributions -> less up-to-date map -> less demand -> lower token price -> even fewer contributions (because rewards worth less). Similarly, on the demand side, if Hivemapper doesn't secure enterprise partnerships or fail to provide an easy interface for developers to use the data, user adoption might lag. They are competing (in an indirect way) with Google, etc., which are entrenched. Convincing companies to rely on a community-built map will take time; if it takes too long, the project could run out of momentum or funding. Scaling risk also includes infrastructure: as more data flows in, storage and bandwidth costs rise; the project will need robust infrastructure (perhaps decentralized storage or partnerships) – any failure to scale tech or infra could degrade service quality (e.g., slow map loading times) and deter users.

Adoption & Ecosystem Competition: The value proposition of Hivemapper must resonate with a broad user base. Risk here is twofold: perhaps the concept doesn't catch on beyond a niche (maybe only a small number of mapping enthusiasts and crypto miners participate, but mainstream drivers or enterprises don't join). Or, if it does catch on, competition might emerge from both crypto and non-crypto players. For instance, competitors like a hypothetical "Decentralized Google Maps" by another company or an incumbent launching a similar incentivization (Google could, theoretically, crowdsource images by paying users, undercutting Hivemapper's uniqueness). Or other crypto "DePIN" projects (there are ones for rides, wireless, etc.) might pivot into mapping. If Hivemapper cannot maintain a lead or network effect, participants might jump ship to a platform with better rewards or tech. The project's success is partly contingent on being the first mover in decentralized mapping; if a competitor

with more resources enters, Hivemapper's network growth could stall, impacting HONEY demand and possibly causing contributor attrition. Another aspect is community adoption: as the network becomes more community-governed, ensuring effective governance is key. If a power struggle or fracturing occurs (like some wanting a different reward model, causing conflict), that could hamper coherent implementation of upgrades. Avalanche's risk equivalent is a fracture in community consensus [obj]; here, if a significant group of contributors felt the system was unfair, they might fork or leave, diluting the network's strength.

Validator/Participation Risks: (Although Hivemapper doesn't have validators securing its own chain, it has participants securing data quality.) If participating in the network becomes unattractive – for instance, if running a dashcam becomes not economically viable (gas costs for driving outweigh token rewards due to low price or high fuel costs), many might stop contributing. The project expects individuals will do this as part of normal driving, but some may have been driving extra to earn HONEY; if that's not worth it, contribution could drop, leaving coverage gaps. Similarly, if the quality enforcement is too lax or too strict, it could either allow bad data (hurting map reliability) or discourage contributors (if they feel unfairly penalized). That balancing is tough to implement; missteps could reduce user engagement. Another risk is regional participation: if the network fails to attract contributors in key regions (e.g., only maps well the US and Europe but not Asia/Africa due to lack of device distribution), the value of the "global" map is less, impacting potential demand from global companies. Implementation requires a worldwide user base; uneven uptake is a risk.

Hardware & Supply Chain Risks: Hivemapper relies on physical dashcam hardware. There are risks in that dimension: manufacturing delays (already experienced once), supply chain disruptions (chip shortages, etc.), or costs making devices too expensive for mass adoption. If the hardware is too hard to get or not improved over time (maybe competitors or even smartphone quality eventually surpass it), contributor growth might slow. They did allow some third-party dashcams, but those have varying quality. Ensuring a robust hardware ecosystem is a challenge; failure here means fewer contributors onboarded.

I.5 Technology-Related Risks

Network Security and Consensus Risks: HONEY relies on Solana's security assumptions. If Solana's network were compromised or faced a severe failure, HONEY would be directly affected. For instance, an attack scenario: if an attacker somehow gained >33% of Solana's stake (through collusion or by purchasing a huge amount of SOL and running many validators), they could disrupt consensus – e.g., censor transactions, halt the chain, or cause reorgs. While full-on double-spend or false minting would require >66% and is very improbable, partial attacks could still break functionality for a time. Solana's robust design and large validator set make this unlikely, but not impossible in theory. Also, consensus bugs could be discovered – Solana is a newer chain, and though it's been battle-tested, complex chains can have latent bugs (they've fixed several network bugs historically that caused outages). A network outage on Solana is a risk already seen: multi-hour downtimes occurred in 2021-2022. During an outage, no HONEY transactions can occur, essentially freezing the token's on-chain operations. If such an outage coincides with, say, a time-sensitive action (maybe an exchange needed to process withdrawals, or a user needed to move collateral), it could cause losses or frustrations. Repeated or prolonged outages could erode confidence in Solana and thus in all tokens on it (investors might avoid HONEY if they think the chain is unreliable).

Another angle is 51% attacks in PoW vs. in PoS. Solana is PoS, so mining attacks like double-spends are not a straightforward risk unless an attacker gets majority stake which is economically huge (billions of USD in SOL). More plausible is network splits or downtime – these cause risk of confusion or stuck tokens. For example, in a previous incident, Solana had to be restarted; if HONEY were being transacted at that time, those pending transactions might have failed or needed resubmission. Or in event of a contentious Solana fork (if the community

split, like Ethereum/Ethereum Classic scenario), HONEY could end up existing on two chains – causing potential market confusion and arbitrage. That scenario is unlikely with Solana but conceptually possible if governance disputes arose in Solana.

Quantum Computing Risk: This is a long-term technology risk for all blockchain assets. Solana (like Bitcoin, Ethereum) uses elliptic curve cryptography (ed25519) for keys. Quantum computers in the future might break this cryptography (Shor's algorithm could theoretically derive private keys from public keys). If that happened, all Solana assets would be at risk of theft by a quantum adversary. Current estimates suggest large-scale quantum threats are years away, and crypto communities are monitoring and would attempt to migrate to quantum-resistant algorithms when needed. But if quantum progress surprises and no mitigation is in place, HONEY holdings (like all crypto) could be stolen if addresses have been exposed on-chain (note: in Solana, public keys are always known, so quantum could target them). This is extremely low probability in the near term, but regulators often want acknowledgment: as Avalanche WP notes, this is a long-term risk for all ECDSA/ed25519-based systems [obj] [obj].

Smart Contract and Ecosystem Risks: HONEY, as part of Solana, can be used in DeFi protocols on Solana. The risk there is if a bug in those protocols leads to an exploit. For example, if someone put HONEY in a Solana lending platform and that platform got hacked, a lot of HONEY could be dumped by the hacker, crashing price (even those who didn't use that platform would be affected by price drop). Or a flaw in Solana's token program (though again it's standard and audited) could have unforeseen consequences.

Technical Infrastructure Risks (Off-chain): The project's reliance on centralized infrastructure for map services means there's risk of server failures or data loss. If Hivemapper's databases or storage were corrupted or lost (e.g., through a catastrophic data center event without proper backups), the map data could be irrecoverable in parts, severely setting back the project. They likely have backups across cloud providers to mitigate this. Also, a cyber attack on Hivemapper's infrastructure (distinct from blockchain) could occur – e.g., hackers might try to breach Hivemapper's cloud storage to either ransom or delete map data, or manipulate reward calculations. If successful, this could disrupt network operations and confidence. Another risk is API reliability: if the map API is slow or often down (maybe due to unexpected demand or insufficient resources), enterprise users might drop off, affecting token utility.

Data Integrity and Abuse: Technical risk not on blockchain per se, but on network integrity: malicious actors might attempt to exploit Hivemapper's reward system by uploading fake or repetitive data using multiple accounts, etc. While not exactly a "blockchain hack," this is a network integrity risk that could flood the system with junk and either cause oversupply of tokens or degrade map quality. Hivemapper's algorithms aim to catch that (like verifying GPS, time stamps, using device attestation perhaps). But sophisticated abuse (deepfake imagery, simulated GPS paths, etc.) could be a challenge. If someone farmed HONEY with useless data at scale before being caught, it could inflate supply beyond meaningful map growth – essentially a "data Sybil attack." They mitigate via things like device verification and manual review in suspect cases, but it's a cat-and-mouse risk. If such exploitation became rampant, it undermines the token economy (legit contributors get less, maybe leave, token value drops as people see it's exploitable).

Platform Transition Risk: If in the future, due to any reason (performance or regulation), the project decided to move HONEY to another blockchain (like Helium moved from its own chain to Solana), that process has risk – bridging tokens, ensuring all holders can swap properly. Mistakes in such migration could cause losses or duplicate tokens. No plan for that now; Solana is working well for them. But mention to note: reliance on Solana ties the project's fate somewhat to Solana's fate. If Solana's ecosystem severely declined (e.g., if 5 years later, Solana lost developers or had fundamental issues), Hivemapper might consider migrating to a

new chain or subnet. That would be a complex event with plenty of risk of technical glitches or user confusion

I.6 Mitigation Measures

Transparency & Disclosure: A key mitigation is transparent communication. By publishing this comprehensive white paper and regular updates (blog posts, documentation) , the project ensures users are informed about how the system works and what changes are happening. Transparency helps mitigate misinformation risk and keeps community trust, which can prevent panic selling in some scenarios and encourage community-based problem solving for technical or governance issues.

Community Governance & Feedback: The Hivemapper Foundation's governance process (MIPs) is a mitigation against centralization risk. It provides a structured way to propose improvements and address issues collaboratively . The community (contributors, holders, map users) can voice concerns and suggest changes, which means potential issues (like unfair reward distribution or needed technical features) can be corrected via consensus rather than festering. This inclusivity helps mitigate the risk of community fracture or dissatisfaction – by giving stakeholders a say, they feel invested in the project's success rather than being passive recipients of top-down decisions.

Gradual Decentralization: Over time, transferring responsibilities from Hivemapper Inc. to the Foundation (as described) mitigates single-point-of-failure risk. No Hivemapper Inc. executives are on the foundation board, preventing conflicts of interest . The Foundation is Cayman-based to be internationally neutral, following the model of Ethereum Foundation etc., which mitigates regulatory risk by having a clear non-profit mandate.

Key Management: The mint and update authorities for HONEY are presumably held in a multi-signature wallet requiring multiple trusted team members to sign any token mint or parameter change. This mitigates the risk of a rogue individual or single point hack minting tokens arbitrarily. Also, after initial distribution phases, the team can consider burning the mint authority (renouncing it) once they are confident no further minting is needed beyond the known schedule. That would fully mitigate inflation risk (though they haven't yet due to needing to mint rewards weekly; a compromise is to set up the reward program so it can mint in controlled manner without human intervention).

Network Security (Solana): Solana's architecture has built-in mitigations such as slashing for malicious validators (though not fully enabled yet historically, they plan to), and the rapid patching of issues by its core dev team. The Solana Foundation also maintains a real-time emissions/climate dashboard and presumably network health monitors; the robust community around Solana is a mitigation because issues (like outages) are responded to by a wide group of experts and the network is improved (for instance, after past outages, they implemented upgrades like fee markets to avoid spam halts).

RPC and Infrastructure Improvements: After experiencing slow reward transactions due to Solana RPC issues, Hivemapper moved to a specialized RPC provider (Helius) and set up backup RPC nodes . This mitigates risk of future delays by having reliable blockchain connectivity and throughput. They also intend to have redundant infrastructure for critical processes – e.g., more than one server calculating rewards to cross-verify and ensure continuity if one fails.

Data Validation to Prevent Cheating: Hivemapper has multiple anti-fraud measures: unique device IDs (Guild creation, locked devices) , proof-of-location techniques (comparing images with prior ones, using phone GPS + dashcam, etc.), and auditing of contributions (the delayed reward incident itself showed they audit calculation anomalies). They learned from

that to decouple any new reward factors from live calcs until tested 🆗 and not delay all rewards if one part fails. Going forward, they'll soft-launch any new metric and ensure others proceed if one fails – this mitigates the risk of total reward halt from one component.

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 HONEY token operates on the Solana blockchain, which utilizes a Proof-of-History (PoH) combined with Proof-of-Stake (PoS) consensus mechanism. This architecture is generally considered to be less energy-intensive than traditional Proof-of-Work (PoW) models, as it avoids computationally expensive mining processes. Instead, validators are selected based on stake-weighted criteria and cryptographic timekeeping, resulting in comparatively lower overall energy usage. However, it is important to note that any energy consumption estimates associated with the use of HONEY cannot be precisely isolated or attributed solely to the token. The HONEY token does not operate its own network or infrastructure; it is a token issued on Solana, and its transaction processing and security are entirely reliant on the underlying Solana network.

While broader assessments of sustainability may consider Solana's technical model as more efficient than legacy chains, no absolute claims are made here regarding the environmental footprint of HONEY itself. Energy consumption may still vary based on validator configurations, network load, and infrastructure distribution. As such, this disclosure is intended to inform stakeholders for the purposes of a broader MiCA-compliant prospectus and should not be interpreted as an environmental assurance or performance claim.

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	HONEY
S.4 Consensus Mechanism The consensus mechanism, as reported in field H.4	Solana uses a unique combination of Proof of History (PoH) and Proof of Stake (PoS) to achieve high throughput, low latency, and robust security. Here's a detailed explanation of how these mechanisms work: Core Concepts 1. Proof of History (PoH): Time-Stamped Transactions: PoH is a cryptographic technique

	that timestamps transactions, creating a historical record that proves that an event has occurred at a specific moment in time. Verifiable Delay Function: PoH uses a Verifiable Delay Function (VDF) to generate a unique hash that includes the transaction and the time it was processed. This sequence of hashes provides a verifiable order of events, enabling the network to efficiently agree on the sequence of transactions. 2. Proof of Stake (PoS): Validator Selection: Validators are chosen to produce new blocks based on the number of SOL tokens they have staked. The more tokens staked, the higher the chance of being selected to validate transactions and produce new blocks. Delegation: Token holders can delegate their SOL tokens to validators, earning rewards proportional to their stake while enhancing the network's security. Consensus Process 1. Transaction Validation: Transactions are broadcast to the network and collected by validators. Each transaction is validated to ensure it meets the network’s criteria, such as having correct signatures and sufficient funds. 2. PoH Sequence Generation: A validator generates a sequence of hashes using PoH, each containing a timestamp and the previous hash. This process creates a historical record of transactions, establishing a cryptographic clock for the network. 3. Block Production: The network uses PoS to select a leader validator based on their stake. The leader is responsible for bundling the validated transactions into a block. The leader validator uses the PoH sequence to order transactions within the block, ensuring that all transactions are processed in the correct order. 4. Consensus and Finalization: Other validators verify the block produced by the leader validator. They check the correctness of the PoH sequence and validate the transactions within the block. Once the block is verified, it is added to the blockchain. Validators sign off on the block, and it is considered finalized. Security and Economic Incentives 1. Incentives for Validators: Block Rewards: Validators earn rewards for producing and validating blocks. These rewards are distributed in SOL tokens and are proportional to the validator’s stake and performance. Transaction Fees: Validators also earn transaction fees from the transactions included in the blocks they produce. These fees provide an additional incentive for validators to process transactions efficiently. 2. Security: Staking: Validators must stake SOL tokens to participate

	in the consensus process. This staking acts as collateral, incentivizing validators to act honestly. If a validator behaves maliciously or fails to perform, they risk losing their staked tokens. Delegated Staking: Token holders can delegate their SOL tokens to validators, enhancing network security and decentralization. Delegators share in the rewards and are incentivized to choose reliable validators. 3. Economic Penalties: Slashing: Validators can be penalized for malicious behavior, such as double-signing or producing invalid blocks. This penalty, known as slashing, results in the loss of a portion of the staked tokens, discouraging dishonest actions.
S.5 Incentive Mechanisms and Applicable Fees Incentive mechanisms to secure transactions and any fees applicable, as reported in field H.5	Solana uses a combination of Proof of History (PoH) and Proof of Stake (PoS) to secure its network and validate transactions. Here's a detailed explanation of the incentive mechanisms and applicable fees: Incentive Mechanisms 4. Validators: Staking Rewards: Validators are chosen based on the number of SOL tokens they have staked. They earn rewards for producing and validating blocks, which are distributed in SOL. The more tokens staked, the higher the chances of being selected to validate transactions and produce new blocks. Transaction Fees: Validators earn a portion of the transaction fees paid by users for the transactions they include in the blocks. This provides an additional financial incentive for validators to process transactions efficiently and maintain the network's integrity. 5. Delegators: Delegated Staking: Token holders who do not wish to run a validator node can delegate their SOL tokens to a validator. In return, delegators share in the rewards earned by the validators. This encourages widespread participation in securing the network and ensures decentralization. 6. Economic Security: Slashing: Validators can be penalized for malicious behavior, such as producing invalid blocks or being frequently offline. This penalty, known as slashing, involves the loss of a portion of their staked tokens. Slashing deters dishonest actions and ensures that validators act in the best interest of the network. Opportunity Cost: By staking SOL tokens, validators and delegators lock up their tokens, which could otherwise be used or sold. This opportunity cost incentivizes participants to act honestly to earn rewards and avoid penalties. Fees Applicable on the Solana Blockchain 7.

	Transaction Fees: Low and Predictable Fees: Solana is designed to handle a high throughput of transactions, which helps keep fees low and predictable. The average transaction fee on Solana is significantly lower compared to other blockchains like Ethereum. Fee Structure: Fees are paid in SOL and are used to compensate validators for the resources they expend to process transactions. This includes computational power and network bandwidth. 8. Rent Fees: State Storage: Solana charges rent fees for storing data on the blockchain. These fees are designed to discourage inefficient use of state storage and encourage developers to clean up unused state. Rent fees help maintain the efficiency and performance of the network. 9. Smart Contract Fees: Execution Costs: Similar to transaction fees, fees for deploying and interacting with smart contracts on Solana are based on the computational resources required. This ensures that users are charged proportionally for the resources they consume.
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	321.40458 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

Not Applicable