

Liquid Staked ETH (LSETH)
White paper

In accordance with Title II of Regulation (EU) 2023/1114 (MiCA)

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N	Field	Content
0	Table of content	<p>Table of content 2</p> <p>Date of notification 7</p> <p>Statement in accordance with Article 6(3) of Regulation (EU) 2023/1114 7</p> <p>Compliance statement in accordance with Article 6(6) of Regulation (EU) 2023/1114 7</p> <p>Statement in accordance with Article 6(5), points (a), (b), (c) of Regulation (EU) 2023/1114 7</p> <p>Statement in accordance with Article 6(5), point (d) of Regulation (EU) 2023/1114 7</p> <p>Statement in accordance with Article 6(5), points (e) and (f) of Regulation (EU) 2023/1114 7</p> <p>Summary 8</p> <p>Warning in accordance with Article 6(7), second subparagraph of Regulation (EU) 2023/1114 8</p> <p>Characteristics of the crypto-asset 8</p> <p>Information about the quality and quantity of goods or services to which the utility tokens give access and restrictions on the transferability 8</p> <p>Key information about the offer to the public or admission to trading 8</p> <p>Part I – Information on risks 9</p> <p>Offer-Related Risks 9</p> <p>Issuer-Related Risks 9</p> <p>Crypto-Assets-related Risks 9</p> <p>Project Implementation-Related Risks 10</p> <p>Technology-Related Risks 11</p> <p>Mitigation measures 12</p> <p>Part A - Information about the offeror or the person seeking admission to trading 12</p> <p>Name 12</p> <p>Legal form 13</p> <p>Registered address 13</p> <p>Head office 13</p> <p>Registration Date 13</p> <p>Legal entity identifier 13</p> <p>Another identifier required pursuant to applicable national law 13</p> <p>Contact telephone number 13</p> <p>E-mail address 13</p> <p>Response Time (Days) 13</p> <p>Parent Company 13</p> <p>Members of the Management body 13</p>

	Business Activity	13
	Parent Company Business Activity	14
	Newly Established	14
	Financial condition for the past three years	14
	Financial condition since registration	14
	Part B - Information about the issuer, if different from the offeror or person seeking admission to trading	14
	Issuer different from offeror or person seeking admission to trading	14
	Name	14
	Legal form	14
	Registered address	14
	Head office	14
	Registration Date	14
	Legal entity identifier	14
	Another identifier required pursuant to applicable national law	15
	Parent Company	15
	Members of the Management body	15
	Business Activity	15
	Parent Company Business Activity	15
	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	15
	Name	15
	Legal form	15
	Registered address	15
	Head office	15
	Registration Date	15
	2023-07-11	15
	Legal entity identifier of the operator of the trading platform	15
	Another identifier required pursuant to applicable national law	16
	Parent Company	16
	Reason for Crypto-Asset White Paper Preparation	16
	Members of the Management body	16
	Operator Business Activity	16
	Parent Company Business Activity	16
	Other persons drawing up the crypto-asset white paper according to Article 6(1), second subparagraph, of Regulation (EU) 2023/1114	17
	Reason for drawing the white paper by persons referred to in Article 6(1), second subparagraph, of Regulation (EU) 2023/1114	17
	Part D- Information about the crypto-asset project	17

	Crypto-asset project name	17
	Crypto-assets name	17
	Abbreviation	17
	Crypto-asset project description	17
	Details of all natural or legal persons involved in the implementation of the crypto-asset project	18
	Utility Token Classification	18
	Key Features of Goods/Services for Utility Token Projects	19
	Plans for the token	19
	Resource Allocation	19
	Planned Use of Collected Funds or Crypto-Assets	19
	Part E - Information about the offer to the public of crypto-assets or their admission to trading	19
	Public Offering or Admission to trading	20
	Reasons for Public Offer or Admission to trading	20
	Fundraising Target	20
	Minimum Subscription Goals	20
	Maximum Subscription Goal	20
	Oversubscription Acceptance	20
	Oversubscription Allocation	20
	Issue Price	20
	Official currency or other crypto-assets determining the issue price	20
	Subscription fee	20
	Offer Price Determination Method	21
	Total Number of Offered/Traded crypto-assets	21
	Targeted Holders	21
	Holder restrictions	21
	Reimbursement Notice	21
	Refund Mechanism	21
	Refund Timeline	21
	Offer Phases	21
	Early Purchase Discount	21
	Time-limited offer	21
	Subscription period beginning	21
	Subscription period end	22
	Safeguarding Arrangements for Offered Funds/crypto-assets	22
	Payment Methods for crypto-asset Purchase	22
	Value Transfer Methods for Reimbursement	22
	Right of Withdrawal	22
	Transfer of Purchased crypto-assets	22

	Transfer Time Schedule	22
	Purchaser's Technical Requirements	22
	crypto-asset service provider (CASP) name	22
	CASP identifier	23
	Placement form	23
	Trading Platforms name	23
	Trading Platforms Market Identifier Code (MIC)	23
	Trading Platforms Access	23
	Involved costs	23
	Offer Expenses	23
	Conflicts of Interest	23
	Applicable law	23
	Competent court	23
	Part F - Information about the crypto-assets	23
	Crypto-Asset Type	23
	Crypto-Asset Functionality	24
	Planned Application of Functionalities	24
	A description of the characteristics of the crypto-asset, including the data necessary for classification of the crypto-asset white paper in the register referred to in Article 109 of Regulation (EU) 2023/1114, as specified in accordance with paragraph 8 of that Article	24
	Type of white paper	24
	The type of submission	24
	Crypto-Asset Characteristics	24
	Commercial name or trading name	24
	Website of the issuer	25
	Starting date of offer to the public or admission to trading	25
	Publication date	25
	Any other services provided by the issuer	25
	Identifier of operator of the trading platform	25
	Language or languages of the white paper	25
	Digital Token Identifier	25
	Functionally Fungible Group Digital Token Identifier	25
	Voluntary data flag	25
	Personal data flag	25
	LEI eligibility	26
	Home Member State	26
	Host Member States	26
	Part G - Information on the rights and obligations attached to the crypto-assets	26
	Purchaser Rights and Obligations	26

	Exercise of Rights and obligations	26
	Conditions for modifications of rights and obligations	27
	Future Public Offers	27
	Issuer Retained Crypto-Assets	27
	Utility Token Classification	27
	Key Features of Goods/Services of Utility Tokens	27
	Utility Tokens Redemption	27
	Non-Trading request	28
	Crypto-Assets purchase or sale modalities	28
	Crypto-Assets Transfer Restrictions	28
	Supply Adjustment Protocols	28
	Supply Adjustment Mechanisms	28
	Token Value Protection Schemes	28
	Token Value Protection Schemes Description	28
	Compensation Schemes	28
	Compensation Schemes Description	28
	Applicable law	29
	Competent court	29
	Part H – information on the underlying technology	29
	Distributed ledger technology	29
	Protocols and technical standards	29
	Technology Used	29
	Consensus Mechanism	29
	Incentive Mechanisms and Applicable Fees	29
	Use of Distributed Ledger Technology	29
	DLT Functionality Description	29
	Audit	30
	Audit outcome	30
	Part J - Information on the suitability indicators in relation to adverse impact on the climate and other environment-related adverse impacts	31
	Name	31
	Relevant legal entity identifier	32
	Name of the crypto-asset	32
	Consensus Mechanism	32
	Incentive Mechanisms and Applicable Fees	32
	Beginning of the period to which the disclosure relates	33
	End of the period to which the disclosure relates	33
	Energy consumption	33
	Energy consumption sources and methodologies	33

01	Date of notification	2025-06-19
02	Statement in accordance with Article 6(3) of Regulation (EU) 2023/1114	This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union. The operator of the trading platform of the crypto-asset is solely responsible for the content of this crypto-asset white paper.
03	Compliance statement in accordance with Article 6(6) of Regulation (EU) 2023/1114	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	Statement in accordance with Article 6(5), points (a), (b), (c) of Regulation (EU) 2023/1114	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	Statement in accordance with Article 6(5), point (d) of Regulation (EU) 2023/1114	false
06	Statement in accordance with Article 6(5), points (e) and (f) of Regulation (EU) 2023/1114	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 in accordance with Article 6(7), second subparagraph of Regulation (EU) 2023/1114	<p>Warning</p> <p>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 admission to trading 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.</p>
08	Characteristics of the crypto-asset	<p>Liquid Staked Ether (LsETH) is a crypto-asset representing staked Ether (ETH) plus any accrued staking rewards, minus applicable fees. Holders of LsETH have a legal and beneficial ownership claim to the underlying staked ETH and its yield. LsETH's value is not stabilized to any asset or currency and will fluctuate based on the market price of ETH and network rewards.</p> <p>There is no fixed or maximum supply. New LsETH is minted with fresh ETH deposits and burned when holders redeem. 90% of Ethereum's staking rewards go to LsETH holders, boosting its value relative to ETH, while the remaining 10% is split among node operators, integrators, the coverage treasury, service providers, and other participants.</p>
09	Information about the quality and quantity of goods or services to which the utility tokens give access and restrictions on the transferability	N/A
10	Key information about the offer to the public or admission to trading	Kraken seeks admission to trading of the LSETH token so as to be compliant with MiCA and in keeping with its mission to make available for trading to its clients a wide range of assets.

Part I – Information on risks		
I.1	Offer-Related Risks	<p>General Risk Factors Associated with Crypto-Asset Offerings</p> <p>The admission to trading of crypto-assets, including LSETH, is subject to general risks inherent to the broader cryptocurrency market.</p> <p>Market Volatility</p> <p>The value of LSETH may experience substantial fluctuations driven by investor sentiment, macroeconomic developments, and market conditions.</p> <p>Regulatory Risks</p> <p>Changes in legislation, applicable laws, compliance requirements or the implementation of new regulatory frameworks could affect the availability, trading, or use of such assets.</p> <p>Security Risks</p> <p>The risk of exploitation, hacking or security vulnerabilities of the underlying protocol and/or contracts of the token leading to a loss.</p> <p>Reputational Risks</p> <p>The potential for damage to an organization’s credibility or public trust, which can negatively impact stakeholder confidence and overall business viability.</p>
I.2	Issuer-Related Risks	<p>Operational reliance key partners</p> <p>The development and day-to-day operations rely heavily on Alluvial Finance Inc. and a small group of core team members. If Alluvial were to face financial distress, legal impediments, or loss of key personnel, the momentum and support for Liquid Collective could be adversely affected. While the protocol is decentralized in function, its growth and updates currently depend on this core team.</p> <p>Reputational risk</p> <p>Any incidents (security breach, compliance failure) would directly reflect on the issuer and could harm its reputation. Since Alluvial and the foundation position themselves as compliance- and security-focused, a failure in those areas could lead to loss of institutional partner support. Reputational damage could result in partners pulling out, further reducing the issuer’s ability to operate effectively.</p>
I.3	Crypto-Assets-related Risks	<p>Market Volatility</p> <p>The crypto-asset market is subject to significant price volatility, which may affect the value of LSETH. Prices can fluctuate rapidly and unpredictably due to various factors, including market sentiment, economic indicators, technological developments, regulatory news, and macroeconomic trends. This high level of</p>

		<p>volatility may lead to sudden gains or losses and can impact the liquidity and tradability of the crypto-asset.</p> <p>Liquidity Liquidity refers to the ability to buy or sell a crypto-asset without causing significant price impact. LSETH may experience periods of low liquidity, meaning that it could be difficult to enter or exit positions at desired prices or volumes. Reduced liquidity may result from limited market participation, exchange restrictions, or broader market conditions. This can lead to increased price volatility, slippage, and difficulty in executing transactions.</p> <p>Cybersecurity & Technology Risks Risks arising from vulnerabilities in the blockchain technology used by the project or platforms. Example risks include smart contract exploits, compromise of platforms, forking scenarios, compromise of cryptographic algorithms.</p> <p>Underlying asset risk LSETH derives value entirely from ETH. Therefore, it inherits all volatility and risk of ETH itself. If ETH's market price collapses (due to crypto market downturn, macro factors, or Ethereum-specific issues), LSETH's value will equally collapse. Holders are exposed to the full downside of ETH market risk</p> <p>Adoption Risks The risk associated with the project not achieving its goals leading to lower than expected adoption and use within the ecosystem, the impact leading to a reduced utility and value proposition.</p> <p>Custody & Ownership Risk The risk related to the inadequate safekeeping and control of crypto-assets e.g. loss of private keys, custodian insolvency leading to a loss.</p>
I.4	Project Implementation-Related Risks	<p>Development-delay risk Liquid Collective's roadmap calls for expanding LsToken support to additional blockchains and progressively decentralising protocol governance. If those milestones are postponed or delivered with technical flaws, confidence in LSETH could drop and integrations may stall.</p> <p>Adoption & network-effect risk The economic model assumes that a broad set of exchanges, custodians, and DeFi platforms list or accept LSETH. Should uptake remain limited, secondary-market liquidity could stay thin, discouraging new users and reducing fee revenue that funds ongoing development.</p> <p>Regulatory Compliance</p>

		<p>As the project progresses, it may encounter regulatory challenges that impact its design, implementation, or operation. Evolving legal and compliance requirements could necessitate changes to the project's architecture, user interface, or overall business model, potentially resulting in development delays, increased costs, or the need to rework key components.</p> <p>Dependency on Ethereum upgrades Ethereum's protocol evolves (e.g., future hard forks like "Shanghai" which enabled withdrawals, or upcoming scaling improvements). Liquid Collective must adapt its smart contracts and operations to these changes. There's a risk that an Ethereum update might require a swift response, if the project fails to update (for example, if a change in Ethereum affects how staking or withdrawing works), the protocol could become temporarily incompatible or inefficient.</p>
I.5	Technology-Related Risks	<p>Smart contract risks LSETH uses smart contracts to facilitate automated transactions and processes. While these contracts enhance efficiency and decentralization, they also introduce specific technical risks. Vulnerabilities such as coding errors, design flaws, or security loopholes within the smart contract code may be exploited by malicious actors. Such exploits could result in the loss of assets, unauthorized access to sensitive information, or unintended and irreversible execution of transactions.</p> <p>Blockchain Network Risks LSETH operates on a public blockchain infrastructure, which is maintained by a decentralized network of participants. The functionality and reliability of the crypto-asset are dependent on the performance and security of the underlying blockchain. Risks may include network congestion, high transaction fees, delayed processing times, or, in extreme cases, outages and disruptions. Additionally, vulnerabilities or failures in the consensus mechanism, attacks on the network (e.g., 51% attacks), or protocol-level bugs could impact the operation and availability of LSETH.</p> <p>Risk of Cryptographic Vulnerabilities Technological advancements, such as quantum computing, could pose potential risks to cryptocurrencies.</p> <p>Privacy Transactions involving LSETH are recorded on a public blockchain, where transaction data is transparent and permanently accessible. While public addresses do not directly reveal personal identities, transaction histories can be analyzed and, in some cases, linked to individuals through data aggregation or external information sources. This transparency may pose privacy concerns for users seeking confidentiality in their financial activity. Transaction data on public</p>

		blockchains is not inherently private and could be subject to scrutiny by third parties, including regulators, analytics firms, or malicious actors.
I.6	Mitigation measures	<p>Audits Liquid Collective's contracts were reviewed several times by well-known security firms, including Halborn, Spearbit, Quantstamp, and Certora. All critical findings were corrected before the system went live, and follow-up audits are scheduled whenever new features are added.</p> <p>Safeguards Critical actions such as pausing the protocol or upgrading code require a multisignature wallet that must be signed by several consortium members. This prevents any single party from changing key parameters or taking funds. The pause switch has already been used once in production to resolve an incident.</p> <p>Use of established standards LsETH is a standard ERC-20 "cToken" that relies on audited OpenZeppelin libraries and Ethereum's native proof-of-stake staking contract. Using these widely adopted components keeps the attack surface small and familiar to auditors.</p> <p>Transparency All core code is open-source on GitHub, and every validator assignment, oracle update, and multisig transaction is visible on-chain. Community members and security researchers can track protocol activity in real time through public dashboards.</p> <p>Slashing-coverage insurance First, every validator that runs your staked ETH posts its own "security deposit." If their machine misbehaves and gets penalised, that deposit is used to make holders whole. Second, a small slice of staking rewards is set aside in an on-chain treasury; this pool grows over time and backs up the operators' deposits if a penalty is larger than one operator can cover. Third, the protocol buys an extra insurance policy from Nexus Mutual that adds another USD 5 million of cover each year for truly extreme events. Losses are paid from these pools in that order, so ordinary users are protected unless a slashing event is so massive it exhausts all three cushions</p>
Part A - Information about the offeror or the person seeking admission to trading		
A.1	Name	N/A

A.2	Legal form	N/A
A.3	Registered address	N/A
A.4	Head office	N/A
A.5	Registration Date	N/A
A.6	Legal entity identifier	N/A
A.7	Another identifier required pursuant to applicable national law	N/A
A.8	Contact telephone number	N/A
A.9	E-mail address	N/A
A.10	Response Time (Days)	N/A
A.11	Parent Company	N/A
A.12	Members of the Management body	N/A
A.13	Business Activity	N/A

A.14	Parent Company Business Activity	N/A
A.15	Newly Established	N/A
A.16	Financial condition for the past three years	N/A
A.17	Financial condition since registration	N/A
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	Alluvial Finance Inc
B.3	Legal form	Corporation (Inc.)
B.4	Registered address	Corporation Trust Center 1209 Orange St, Wilmington, New Castle, DE, 19801, United States
B.5	Head office	N/A
B.6	Registration Date	2022-05-23
B.7	Legal entity identifier	N/A

B.8	Another identifier required pursuant to applicable national law	Delaware Registration number 6814109
B.9	Parent Company	N/A
B.10	Members of the Management body	N/A
B.11	Business Activity	Not available
B.12	Parent Company Business Activity	N/A
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	Payward Global Solutions LTD
C.2	Legal form	N/A
C.3	Registered address	N/A
C.4	Head office	N/A
C.5	Registration Date	2023-07-11
C.6	Legal entity identifier of the operator of the trading platform	9845003D98SCC2851458

C.7	Another identifier required pursuant to applicable national law	N/A																		
C.8	Parent Company	N/A																		
C.9	Reason for Crypto-Asset White Paper Preparation	Kraken seeks admission to trading of the LSETH token so as to be compliant with MiCA and in keeping with its mission to make available for trading to its clients a wide range of assets.																		
C.10	Members of the Management body	<table> <tr> <th>Full Name</th><th>Business Address</th><th>Function</th></tr> <tr> <td>Shannon Kurtas</td><td>70 Sir John Rogerson's Quay, Dublin 2, Ireland</td><td>Board Member</td></tr> <tr> <td>Andrew Mulvenny</td><td>70 Sir John Rogerson's Quay, Dublin 2, Ireland</td><td>Board Member</td></tr> <tr> <td>Shane O'Brien</td><td>70 Sir John Rogerson's Quay, Dublin 2, Ireland</td><td>Board Member</td></tr> <tr> <td>Laura Walsh</td><td>70 Sir John Rogerson's Quay, Dublin 2, Ireland</td><td>Board Member</td></tr> <tr> <td>Michael Walsh</td><td>70 Sir John Rogerson's Quay, Dublin 2, Ireland</td><td>Board Member</td></tr> </table>	Full Name	Business Address	Function	Shannon Kurtas	70 Sir John Rogerson's Quay, Dublin 2, Ireland	Board Member	Andrew Mulvenny	70 Sir John Rogerson's Quay, Dublin 2, Ireland	Board Member	Shane O'Brien	70 Sir John Rogerson's Quay, Dublin 2, Ireland	Board Member	Laura Walsh	70 Sir John Rogerson's Quay, Dublin 2, Ireland	Board Member	Michael Walsh	70 Sir John Rogerson's Quay, Dublin 2, Ireland	Board Member
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Michael Walsh	70 Sir John Rogerson's Quay, Dublin 2, Ireland	Board Member																		
C.11	Operator Business Activity	PGSL is the operator of a Trading Platform for Crypto Assets, in accordance with Article 3(1)(18) of Regulation (EU) 2023/1114 (MiCA).																		
C.12	Parent Company Business Activity	<p>Payward, Inc., a Delaware, USA corporation, is the parent company of a worldwide group of subsidiaries (the following paragraphs use the term "Payward" or "Payward Group" to refer to the group) collectively doing business as "Kraken." Payward's primary business is the operation of an online virtual asset platform that enables clients to buy and sell virtual assets on a spot basis, including the transfer of crypto-assets to and from external wallets.</p> <p>Payward, through its various affiliates, offers a number of other services and products, including:</p>																		

		<ul style="list-style-type: none"> * A trading platform for futures contracts on virtual assets (“Kraken Derivatives”); * A platform for buying and selling NFTs; * An over-the-counter (“OTC”) desk; * Extensions of margin to support spot trading of virtual assets; * A benchmark administrator; and * Staking services.
C.13	Other persons drawing up the crypto-asset white paper according to Article 6(1), second subparagraph, of Regulation (EU) 2023/1114	N/A
C.14	Reason for drawing the white paper by persons referred to in Article 6(1), second subparagraph, of Regulation (EU) 2023/1114	N/A
Part D- Information about the crypto-asset project		
D.1	Crypto-asset project name	Liquid Staked ETH
D.2	Crypto-assets name	Liquid Staked ETH
D.3	Abbreviation	LSETH
D.4	Crypto-asset project description	Liquid Staked ETH is a liquid-staking implementation on Ethereum. When a user deposits ETH, the smart contracts mint Liquid Staked ETH (LsETH), an ERC-20 token that represents the deposited ETH along with any staking rewards that accrue, net of fees and potential slashing penalties. LsETH uses a floating

		<p>conversion-rate model, so a holder's token balance stays constant while the amount of redeemable ETH per token increases over time.</p> <p>Access to the staking contracts requires KYC and AML verification, and the protocol distributes stake across a vetted group of professional node operators that must meet published performance and security standards.</p> <p>Holders can freely transfer or trade LsETH, or use it in DeFi applications that list the asset, thereby retaining liquidity without giving up staking yield.</p>
D.5	Details of all natural or legal persons involved in the implementation of the crypto-asset project	<p>Project entities</p> <p>The Liquid Foundation Non-profit foundation created in 2022 to oversee Liquid Collective, safeguard the protocol treasury and, once community governance is activated, coordinate on-chain voting.</p> <p>Alluvial Finance Inc. U.S. C-corporation that architects, audits and ships the core Liquid Collective software and manages day-to-day consortium operations.</p> <p>Core team</p> <p>Mara Schmiedt: Co-Founder and Chief Executive Officer. Matthew Leisinger: Co-Founder and Head of Product. Evan Weiss: Co-Founder and Head of Protocol.</p> <p>Key technology & ecosystem partners</p> <p>Node-operator consortium: runs the distributed validator set that backs LsETH stake. Exchange and custodian integrators: provide compliant user on-ramps, custody and liquidity for LsETH.</p> <p>Nexus Mutual: supplies the umbrella insurance cover that forms the third layer of Liquid Collective's slashing-coverage programme.</p> <p>Hypernative and Obol Labs: deliver real-time risk monitoring and distributed-validator middleware to boost security and uptime.</p>
D.6	Utility Token Classification	false

D.7	Key Features of Goods/Services for Utility Token Projects	N/A
D.8	Plans for the token	<p>Key milestones</p> <p>March 2023: Mainnet launch. LsETH minting became publicly available, marking the start of Liquid Collective's ETH liquid-staking service.</p> <p>June 2023: Withdrawals live. The protocol enabled on-chain redemptions, allowing holders to burn LsETH and receive the corresponding ETH after the beacon-chain exit queue.</p> <p>April 2024: Protocol service fee reduced to 10 %. The fee on staking rewards was lowered from 15 % to 10 %, increasing net yield for all LsETH holders.</p> <p>February 2025: Deployment on the Base Layer-2 network. LsETH became available on Base, using secure cross-chain messaging to offer faster, lower-cost transactions.</p> <p>Future milestones</p> <p>For forthcoming roadmap items, please consult the project's official channels.</p>
D.9	Resource Allocation	<p>Financial resources</p> <p>Alluvial Finance Inc., the core development company behind Liquid Collective, has secured roughly USD 22,5 million across three venture rounds: USD 6,3 million seed financing (December 2022), USD 12 million Series A (July 2023) and USD 4.3 million strategic funding (November 2024).</p> <p>Protocol service fee</p> <p>10% of all staking rewards is reserved for operational needs.</p>
D.10	Planned Use of Collected Funds or Crypto-Assets	<p>Venture round proceeds are allocated to smart-contract engineering, security audits, node-operator onboarding, insurance premiums, and general operations.</p> <p>Of the protocol service fee, the fixed slice is shared among node operators, integrator platforms, the on-chain slashing-coverage treasury, and the core development team. The exact split inside that 10% pool is set by consortium governance and may change over time, but the total fee remains capped at 10% of gross rewards.</p>

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	Making secondary trading available to the consumers on the Kraken Trading platform in compliance with the MiCA regulatory framework
E.3	Fundraising Target	N/A
E.4	Minimum Subscription Goals	N/A
E.5	Maximum Subscription Goal	N/A
E.6	Oversubscription Acceptance	N/A
E.7	Oversubscription Allocation	N/A
E.8	Issue Price	N/A
E.9	Official currency or other crypto-assets determining the issue price	N/A
E.10	Subscription fee	N/A

E.11	Offer Price Determination Method	N/A
E.12	Total Number of Offered/Traded crypto-assets	Variable supply There is no predetermined total supply of LsETH. The number of tokens in circulation depends entirely on how much ETH users stake (and remain in the system). LsETH is minted when new ETH is staked and burned when ETH is redeemed.
E.13	Targeted Holders	ALL
E.14	Holder restrictions	N/A
E.15	Reimbursement Notice	N/A
E.16	Refund Mechanism	N/A
E.17	Refund Timeline	N/A
E.18	Offer Phases	N/A
E.19	Early Purchase Discount	N/A
E.20	Time-limited offer	N/A
E.21	Subscription period beginning	N/A

E.22	Subscription period end	N/A
E.23	Safeguarding Arrangements for Offered Funds/crypto-assets	N/A
E.24	Payment Methods for crypto-asset Purchase	N/A
E.25	Value Transfer Methods for Reimbursement	N/A
E.26	Right of Withdrawal	N/A
E.27	Transfer of Purchased crypto-assets	N/A
E.28	Transfer Time Schedule	N/A
E.29	Purchaser's Technical Requirements	N/A
E.30	crypto-asset service provider (CASP) name	N/A

E.31	CASP identifier	N/A
E.32	Placement form	NTAV
E.33	Trading Platforms name	N/A
E.34	Trading Platforms Market Identifier Code (MIC)	N/A
E.35	Trading Platforms Access	N/A
E.36	Involved costs	N/A
E.37	Offer Expenses	N/A
E.38	Conflicts of Interest	All listings decisions made by Payward Global Solution Ltd are made independently by staff of the entity in line with internal policies. PGSL publishes a conflicts of interest disclosure on its website advising of potential conflicts that may arise.
E.39	Applicable law	Any dispute relating to this white paper shall be governed by and construed and enforced in accordance with the laws of Ireland without regard to conflict of law rules or principles (whether of Ireland or any other jurisdiction) that would cause the application of the laws of any other jurisdiction, irrespective of whether LSETH tokens qualify as right or property under the applicable law.
E.40	Competent court	Any disputes or claims arising out of this white paper will be subject to the exclusive jurisdiction of the Irish courts.

Part F - Information about the crypto-assets

F.1	Crypto-Asset Type	LSETH is classified as a crypto-asset other than an asset referenced token or e-money token under MiCA, (EU) 2023/1114.
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F.2	Crypto-Asset Functionality	LsETH is an ERC-20 receipt token that represents a user's staked ETH and the rewards it earns. Holders may freely transfer or trade the token, use it as collateral in supported DeFi platforms, or redeem it for the underlying ETH (plus rewards, minus fees and any slashing) through the Liquid Collective contracts once their address is allow-listed. LsETH carries no governance or profit-sharing rights; its sole function is to give liquidity to staked ETH while preserving exposure to staking yield.
F.3	Planned Application of Functionalities	<p>According to the project's publicly stated roadmap, the following LsETH-related functionalities are intended but not yet live:</p> <p>Separate governance token A new governance token is planned to be issued to enable community voting on protocol parameters, while LsETH will continue to serve solely as a staking-receipt asset.</p> <p>Additional Layer-2 support Cross-chain minting and redemption of LsETH are planned for more Ethereum Layer-2 networks beyond Base, with candidates such as Arbitrum One and Optimism under evaluation, subject to security review and consortium approval.</p>
A description of the characteristics of the crypto-asset, including the data necessary for classification of the crypto-asset white paper in the register referred to in Article 109 of Regulation (EU) 2023/1114, as specified in accordance with paragraph 8 of that Article		
F.4	Type of white paper	OTHR
F.5	The type of submission	NEWT
F.6	Crypto-Asset Characteristics	LSETH is an ERC-20 receipt token minted only when users stake ETH and LSETH is burned on redemption. Each token tracks a floating conversion rate that reflects its share of the pooled ETH and accrued rewards. Supply is uncapped, transfers are unrestricted, and the token carries no governance or profit-sharing rights beyond redemption value.
F.7	Commercial name or trading name	Alluvial Finance Inc

F.8	Website of the issuer	https://liquidcollective.io/
F.9	Starting date of offer to the public or admission to trading	2023-03-07
F.10	Publication date	2025-07-17
F.11	Any other services provided by the issuer	N/A
F.12	Identifier of operator of the trading platform	PGSL
F.13	Language or languages of the white paper	English
F.14	Digital Token Identifier	Not available
F.15	Functionally Fungible Group Digital Token Identifier	N/A
F.16	Voluntary data flag	Mandatory
F.17	Personal data flag	true

F.18	LEI eligibility	N/A
F.19	Home Member State	Ireland
F.20	Host Member States	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Iceland, Liechtenstein, Norway
Part G - Information on the rights and obligations attached to the crypto-assets		
G.1	Purchaser Rights and Obligations	<p>Rights</p> <p>Holding LsETH gives the purchaser an on-chain claim to a corresponding amount of staked ETH plus the staking rewards that accrue over time. At any moment, an allow-listed holder may redeem (burn) LsETH and receive the underlying ETH at the current conversion rate, subject to Ethereum's normal withdrawal queue. LsETH does not convey governance power or profit-sharing beyond that redemption value; its sole economic right is exposure to the pooled ETH and its yield.</p> <p>Transferability and Trading</p> <p>LsETH functions as a standard ERC-20 token. Holders can freely transfer it to any Ethereum address or trade it on secondary markets (centralised or decentralised exchanges) without restrictions in the token code. All economic rights described above follow the token automatically, so the new holder acquires the redemption claim and the previous holder relinquishes it upon transfer.</p> <p>Obligations</p> <p>There are no ongoing obligations for LsETH holders. Participation in staking flows or secondary-market trading is voluntary. To redeem for ETH, a holder's address must pass the protocol's KYC/AML allow-listing process, but simply holding or transferring the token imposes no duties.</p>
G.2	Exercise of Rights and obligations	<p>Redemption procedure</p> <p>An allow-listed holder opens the Liquid Collective dApp (or an approved integrator) and submits a redemption request, specifying how much LsETH to burn. The smart contract queues the corresponding validators for exit, then, once the Ethereum withdrawal process completes, automatically transfers the equivalent amount of ETH (including accrued rewards, minus the protocol fee and any slashing) to the same wallet. Partial redemptions are allowed, and there</p>

		<p>is no protocol-imposed minimum. Typical settlement time ranges from roughly one to a few days, depending on beacon-chain exit traffic.</p> <p>Transfers and trading</p> <p>LsETH follows the ERC-20 standard, so a holder can send the token to any Ethereum address or trade it on supported exchanges with a standard token-transfer transaction; the new holder inherits the full redemption right. No smart-contract-level transfer restrictions exist.</p> <p>Conditions</p> <p>To redeem, the wallet must be on the protocol's allow-list (KYC/AML verified through an integrator). The holder needs enough ETH to cover network gas fees for the transaction. The protocol may pause deposit or redemption functions in a security emergency, but ordinary transfers remain unaffected. No other obligations, such as staking, voting, or lock-ups, apply to LsETH holders.</p>
G.3	Conditions for modifications of rights and obligations	The rights and obligations attached to LSETH as described in this white paper reflect information available at the time of issuance. This white paper is issued by Kraken and does not constitute a commitment or guarantee by Liquid Staked ETH or any other party regarding future modifications. No promises, warranties, or assurances are made herein regarding future token functionality, and this section is provided solely for informational purposes.
G.4	Future Public Offers	N/A
G.5	Issuer Retained Crypto-Assets	N/A
G.6	Utility Token Classification	false
G.7	Key Features of Goods/Services of Utility Tokens	false
G.8	Utility Tokens Redemption	N/A

G.9	Non-Trading request	This white paper reflects a request to admit the token to trading.
G.10	Crypto-Assets purchase or sale modalities	N/A
G.11	Crypto-Assets Transfer Restrictions	Kraken may, in accordance with applicable laws and internal policies and terms, impose restrictions on buyers and sellers of these tokens.
G.12	Supply Adjustment Protocols	true
G.13	Supply Adjustment Mechanisms	None beyond core issuance/burning. LsETH's supply is adjusted only in response to user actions (minting when new ETH is staked, burning when ETH is unstaked).
G.14	Token Value Protection Schemes	false
G.15	Token Value Protection Schemes Description	N/A
G.16	Compensation Schemes	true
G.17	Compensation Schemes Description	<p>Liquid Collective's own litepaper sets out a three-layer slashing-coverage stack:</p> <p>Slashing-Coverage Treasury. Liquid Collective's Slashing Coverage Treasury collects a fixed 0,30 % of all network rewards and continues to accrue unless deployed. The treasury is used to pay deductibles on network-wide events and to top up cover that exceeds operator commitments.</p> <p>Nexus Mutual umbrella policy A bespoke policy "provides umbrella coverage up to USD 5 million annually in</p>

		slashing losses in excess of coverage deductibles.
G.18	Applicable law	Any dispute relating to this white paper shall be governed by and construed and enforced in accordance with the laws of Ireland without regard to conflict of law rules or principles (whether of Ireland or any other jurisdiction) that would cause the application of the laws of any other jurisdiction, irrespective of whether LSETH tokens qualify as right or property under the applicable law.
G.19	Competent court	Any disputes or claims arising out of this white paper will be subject to the exclusive jurisdiction of the Irish courts.
Part H – information on the underlying technology		
H.1	Distributed ledger technology	LsETH is issued and transacted on the Ethereum network, a decentralized distributed ledger using a Proof-of-Stake consensus. Ethereum Mainnet provides the security and finality for all LsETH token transactions.
H.2	Protocols and technical standards	Ethereum Blockchain Protocol: The LSETH token is based on the Ethereum protocol, which utilizes decentralized Distributed-Ledger Technology. This protocol provides the foundation for secure transactions and smart contracts. ERC20 Token Standard: The ERC20 standard is a technical protocol for issuing and managing tokens, ensuring that the LSETH token is compatible with most wallets, exchanges, and decentralized applications (DApps).
H.3	Technology Used	The LSETH token uses the existing ERC-20 fungible token standard on Ethereum
H.4	Consensus Mechanism	Ethereum uses a Proof-of-Stake (PoS) consensus mechanism, where validators are selected based on ETH stake to propose and attest to new blocks. Transactions on Ethereum typically take 12 seconds, with strong decentralization and security guarantees.
H.5	Incentive Mechanisms and Applicable Fees	LSETH relies on the existing incentive mechanisms and fee structures of the Ethereum blockchain.
H.6	Use of Distributed Ledger Technology	false
H.7	DLT Functionality Description	N/A

H.8	Audit	true
H.9	Audit outcome	<p>July 2022 – Smart-Contract Audit (Halborn)</p> <p>The public summary released by Liquid Collective reports:</p> <ul style="list-style-type: none"> • 0 critical issues • 1 high-severity issue (resolved) • 4 medium issue (resolved) • 5 low issues (3 resolved, 1 accepted, 1 N/A) • 4 informational findings (acknowledged) <p>December 2022 – Security Review (Spearbit)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 3 critical issues (resolved) • 4 high-severity issues (3 resolved, 1 acknowledged) • 15 medium issue (12 resolved, 3 acknowledged) • 5 low issues (4 resolved, 1 acknowledged) • 19 Gas Optimization (18 resolved, 1 acknowledged) • 39 informational findings (32 resolved, 7 acknowledged) <p>November 2022 – Security Review (Spearbit)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 1 critical issue (resolved) • 0 high-severity issues • 2 medium issue (1 resolved, 1 acknowledged) • 2 low issues (1 resolved, 1 acknowledged) • 1 Gas Optimization (1 resolved) • 25 informational findings (23 resolved, 2 acknowledged) <p>May 2023 – Security Review (Spearbit)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 2 critical issues (resolved) • 1 high-severity issue (resolved) • 3 medium issue (1 resolved) • 14 low issues (9 resolved, 5 acknowledged) • 5 Gas Optimization (4 resolved, 1 acknowledged) • 24 informational findings (17 resolved, 7 acknowledged) <p>July 2023 – Security Review (Spearbit)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 0 critical issues • 0 high-severity issues • 0 medium issue

		<ul style="list-style-type: none"> • 0 low issues • 0 Gas Optimization • 4 informational findings (3 resolved, 1 acknowledged) <p>Aug 2023 – Security Review (Spearbit)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 0 critical issues • 0 high-severity issues • 0 medium issue • 0 low issues • 0 Gas Optimization • 0 informational findings <p>October 2023 – Security Review (Spearbit)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 0 critical issues • 0 high-severity issues • 0 medium issue • 5 low issues (4 resolved, 1 acknowledged) • 2 Gas Optimization • 5 informational findings (4 resolved, 1 acknowledged) <p>May 2024 – Code Audit (Quantstamp)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 0 high-severity issues • 1 medium issue (resolved) • 3 low issues (2 resolved, 1 acknowledged) • 4 Undetermined severity findings (1 resolved, 3 acknowledged) • 6 informational findings (resolved) <p>February 2024 – Formal Verification & Security Assessment (Certora)</p> <p>The audit summary reports:</p> <ul style="list-style-type: none"> • 1 critical issue (resolved) • 2 high-severity issues (1 resolved, 1 acknowledged) • 4 medium issues (2 resolved, 2 acknowledged) • 5 low issues (3 resolved, 2 acknowledged) • 3 informational findings (2 resolved, 1 acknowledged)
Part J - Information on the suitability indicators in relation to adverse impact on the climate and other environment-related adverse impacts		
S.1	Name	Payward Global Solutions Limited

S.2	Relevant legal entity identifier	9845003D98SCC2851458
S.3	Name of the crypto-asset	liquid_staked_ethereum
S.4	Consensus Mechanism	<p>liquid_staked_ethereum is present on the following networks: Base, Ethereum.</p> <p>Base is a Layer-2 (L2) solution on Ethereum that was introduced by Coinbase and developed using Optimism's OP Stack. L2 transactions do not have their own consensus mechanism and are only validated by the execution clients. The so-called sequencer regularly bundles stacks of L2 transactions and publishes them on the L1 network, i.e. Ethereum. Ethereum's consensus mechanism (Proof-of-stake) thus indirectly secures all L2 transactions as soon as they are written to L1.</p> <p>The crypto-asset's Proof-of-Stake (PoS) consensus mechanism, introduced with The Merge in 2022, replaces mining with validator staking. Validators must stake at least 32 ETH every block a validator is randomly chosen to propose the next block. Once proposed the other validators verify the block's integrity.</p> <p>The network operates on a slot and epoch system, where a new block is proposed every 12 seconds, and finalization occurs after two epochs (~12.8 minutes) using Casper-FFG. The Beacon Chain coordinates validators, while the fork-choice rule (LMD-GHOST) ensures the chain follows the heaviest accumulated validator votes. Validators earn rewards for proposing and verifying blocks, but face slashing for malicious behavior or inactivity. PoS aims to improve energy efficiency, security, and scalability, with future upgrades like Proto-Danksharding enhancing transaction efficiency.</p>
S.5	Incentive Mechanisms and Applicable Fees	<p>liquid_staked_ethereum is present on the following networks: Base, Ethereum.</p> <p>Base is a Layer-2 (L2) solution on Ethereum that uses optimistic rollups provided by the OP Stack on which it was developed. Transactions on base are bundled by a, so called, sequencer and the result is regularly submitted as an Layer-1 (L1) transaction. This way many L2 transactions get combined into a single L1 transaction. This lowers the average transaction cost per transaction, because many L2 transactions together fund the transaction cost for the single L1 transaction. This creates incentives to use base rather than the L1, i.e. Ethereum, itself.</p> <p>To get crypto-assets in and out of base, a special smart contract on Ethereum is used. Since there is no consensus mechanism on L2 an additional mechanism ensures that only existing funds can be withdrawn from L2. When a user wants to withdraw funds, that user needs to submit a withdrawal request on L1. If this request remains unchallenged for a period of time the funds can be withdrawn.</p>

		<p>During this time period any other user can submit a fault proof, which will start a dispute resolution process. This process is designed with economic incentives for correct behaviour.</p> <p>The crypto-asset's PoS system secures transactions through validator incentives and economic penalties. Validators stake at least 32 ETH and earn rewards for proposing blocks, attesting to valid ones, and participating in sync committees. Rewards are paid in newly issued ETH and transaction fees.</p> <p>Under EIP-1559, transaction fees consist of a base fee, which is burned to reduce supply, and an optional priority fee (tip) paid to validators. Validators face slashing if they act maliciously and incur penalties for inactivity.</p> <p>This system aims to increase security by aligning incentives while making the crypto-asset's fee structure more predictable and deflationary during high network activity.</p>
S.6	Beginning of the period to which the disclosure relates	2024-05-28
S.7	End of the period to which the disclosure relates	2025-05-28
S.8	Energy consumption	8.25166 kWh/a
S.9	Energy consumption sources and methodologies	<p>The energy consumption of this asset is aggregated across multiple components:</p> <p>To determine the energy consumption of a token, the energy consumption of the network(s) base, ethereum is calculated first. For the energy consumption of the token, a fraction of the energy consumption of the network is attributed to the token, which is determined based on the activity of the crypto-asset within the network. When calculating the energy consumption, the Functionally Fungible Group Digital Token Identifier (FFG DTI) is used - if available - to determine all implementations of the asset in scope. The mappings are updated regularly, based on data of the Digital Token Identifier Foundation. The information regarding the hardware used and the number of participants in the network is based on assumptions that are verified with best effort using empirical data. In general, participants are assumed to be largely economically rational. As a precautionary principle, we make assumptions on the conservative side when in doubt, i.e. making higher estimates for the adverse impacts.</p>