Joe (JOE)
White paper

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

N	Field	Content
0	Table of content	

01	Date of notification	2025-07-14
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.

<table>
<tr><td colspan="3">Summary</td></tr>
<tr><td>07</td><td>Warning in accordance with Article 6(7), second subparagraph of Regulation (EU) 2023/1114</td><td>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 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.</td></tr>
<tr><td>08</td><td>Characteristics of the crypto-asset</td><td>JOE is a fungible token of the Joe (LFJ) DeFi platform on the Avalanche network.
Holders who stake their tokens in the JOE contract receive an automatic share of the protocol’s trading revenue. Rewards accrue continuously and can be harvested through the official staking interface, so each staker’s income is directly proportional to their percentage of the total JOE supply.
JOE has a fixed maximum supply of 500,000,000 tokens, distributed as follows:

<table><tr><th>Category</th><th>Allocation</th></tr><tr><td>Liquidity mining incentives</td><td>50%</td></tr><tr><td>Founding team (subject to vesting)</td><td>20%</td></tr><tr><td>Project treasury for ecosystem development</td><td>20%</td></tr><tr><td>Strategic investors.</td><td>10%</td></tr></table>
JOE tokens are freely transferable, and all associated usage rights (such as platform access) accompany the token upon transfer to a new holder.</td></tr>
</table>

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 JOE 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	**General Risk Factors Associated with Crypto-Asset Offerings** The admission to trading of crypto-assets, including JOE, is subject to general risks inherent to the broader cryptocurrency market. **Market Volatility** The value of JOE may experience substantial fluctuations driven by investor sentiment, macroeconomic developments, and market conditions. **Regulatory Risks** Changes in legislation, applicable laws, compliance requirements or the implementation of new regulatory frameworks could affect the availability, trading, or use of such assets. **Security Risks** The risk of exploitation, hacking or security vulnerabilities of the underlying protocol and/or contracts of the token leading to a loss. **Reputational Risks** The potential for damage to an organization's credibility or public trust, which can negatively impact stakeholder confidence and overall business viability**.** **Liquidity Risk** JOE's trading volume can vary, and in conditions of low liquidity holders might not be able to sell or buy large amounts without significant price impact; during market stress, converting JOE to fiat or other assets could become difficult.

		Technology Risk The token relies on the Avalanche blockchain and smart contracts; any failures, bugs, or security breaches in the underlying technology (including the Avalanche network or the Joe smart contracts) could lead to service disruptions or loss of token value.
I.2	Issuer-Related Risks	**Financial Stability Risk** The issuer's ability to sustain the project (e.g., funding ongoing development, maintenance, and operations) is not guaranteed; downturns in DeFi markets or lower platform usage could reduce revenues (such as trading fees) and strain the project's finances. **Legal and Regulatory Risk (Issuer)** The entity behind JOE (and its core team) could face legal challenges or evolving regulations (for example, compliance requirements or potential classifications of the token under law). Such issues might impede project operations or result in sanctions or restrictions that affect token utility. **Governance and Management Risk** As the project's team is relatively small and partly anonymous, its internal governance and decision-making carry risks; key personnel departures or mismanagement of treasury resources could negatively affect project continuity. **Competitive and Sector Risk** Joe operates in a highly competitive DeFi sector. If the issuer fails to continue innovating or if competing platforms attract users away, the usage of the platform (and demand for JOE) may decline. Additionally, any general setbacks in the Avalanche ecosystem or DeFi sector (such as security incidents or loss of user trust) could disproportionately affect the issuer's business and the token's value.
I.3	Crypto-Assets-related Risks	**Market Volatility** The crypto-asset market is subject to significant price volatility, which may affect the value of JOE. 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 volatility may lead to sudden gains or losses and can impact the liquidity and tradability of the crypto-asset. **Liquidity** Liquidity refers to the ability to buy or sell a crypto-asset without causing significant price impact. JOE 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. **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. **Adoption Risks** If the project fails to achieve its goals, adoption and usage may be lower than expected. This could reduce the token's utility and overall value proposition. **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. **Concentration Risk** JOE's supply was initially allocated - 20% to its Founding team and 10% to strategic investors - as such, actions by these parties (for example, selling significant holdings) could impact the token's price and market stability.
I.4	Project Implementation-Related Risks	**Development Risk** There is a risk that planned technical improvements or new features for the Joe platform may be delayed or not successfully implemented. For example, new product launches or upgrades (such as cross-chain expansions or protocol updates) could face technical difficulties or not meet user expectations. **Adoption and Growth Risk** The project's future success depends on continued user adoption and expansion of platform features. If actual user uptake or ecosystem growth lags behind internal expectations, the demand for JOE may decline. **Dependency on External Infrastructure** The implementation of the project relies on the Avalanche network and the cross-chain bridges that connect JOE to Monad, Solana, and other supported chains. Any performance issues or security failures in those external systems (e.g., bridge exploits or network outages) could disrupt use of JOE across platforms. **Strategic Execution Risk** Decisions made by the project team (such as rebranding, partnership choices, or shifts in business strategy) carry execution risk; if those decisions do not yield positive results, they could divert resources or focus away from core development, affecting the project's overall progress.

I.5	Technology-Related Risks	**Smart contract risks** JOE 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. **Blockchain Network Risks** JOE 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 JOE. **Risk of Cryptographic Vulnerabilities** Technological advancements, such as quantum computing, could pose potential risks to cryptocurrencies. **Privacy** Transactions involving JOE 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 blockchains is not inherently private and could be subject to scrutiny by third parties, including regulators, analytics firms, or malicious actors. **Cross-Chain and Interoperability Risk** JOE is issued as a LayerZero Omnichain Fungible Token (OFT) and is bridged between Avalanche, Arbitrum, BNB Chain and other supported networks through LayerZero contracts - a failure, exploit or congestion affecting those bridges could disrupt transfers or result in loss of bridged JOE. **User Security Practices** Holders interact with JOE via wallets and platforms; poor security practices (like phishing attacks or compromised private keys) could lead to loss of JOE, which, while not a flaw of the token itself, remains a technology-related risk in the

		ecosystem.
I.6	Mitigation measures	**Independent Audits** The smart contracts and platform components related to JOE have undergone multiple security audits by third-party firms (for example, audits of the exchange contracts and token mechanics were conducted), and critical vulnerabilities identified have been addressed. These audits help reduce the risk of smart contract failures (though they cannot eliminate risk entirely). **Open-Source Transparency** The project's codebase is open-source and publicly accessible, allowing ongoing review by the developer community and enabling users and security researchers to inspect and verify the code. This transparency helps in early detection of issues and promotes trust. **Fixed Token Supply** JOE's token supply is capped at 500 million tokens, which means no future inflation of supply. This removes the risk of unexpected dilution of existing holders' tokens and provides predictability regarding token availability. **Broad Distribution** The token was distributed largely through community mining without an initial public sale concentrating tokens, which has mitigated centralization; a wide base of holders can reduce single-point failure risk (such as one entity's decisions dominating the market). **Ongoing Security Practices** The project team has indicated continued adherence to security best practices (e.g., use of multi-signature controls for contract upgrades or treasury management and Forta bots). While no measures can wholly eliminate risks, these steps contribute to reducing the impact or likelihood of certain major risk events.
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	El Ephjay Corp
B.3	Legal form	Not available
B.4	Registered address	Not available
B.5	Head office	Not available
B.6	Registration Date	Not available
B.7	Legal entity identifier	Not available
B.8	Another identifier required pursuant to applicable national law	Not available

B.9	Parent Company	Not available
B.10	Members of the Management body	Not available
B.11	Business Activity	Not available
B.12	Parent Company Business Activity	Not available
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

<table>
<tr><td>C.8</td><td>Parent Company</td><td>N/A</td></tr>
<tr><td>C.9</td><td>Reason for Crypto-Asset White Paper Preparation</td><td>Kraken seeks admission to trading of the JOE 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.</td></tr>
<tr><td>C.10</td><td>Members of the Management body</td><td>
<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>
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</td></tr>
<tr><td>C.11</td><td>Operator Business Activity</td><td>PGSL is the operator of a Trading Platform for Crypto Assets, in accordance with Article 3(1)(18) of Regulation (EU) 2023/1114 (MiCA).</td></tr>
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C.12	Parent Company Business Activity	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. Payward, through its various affiliates, offers a number of other services and products, including: * 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	Joe

D.2	Crypto-assets name	Joe
D.3	Abbreviation	JOE
D.4	Crypto-asset project description	Joe is a decentralized finance (DeFi) project operating on the Avalanche blockchain. It functions as a comprehensive DeFi platform, featuring an automated market maker (AMM) for token swaps, yield farming and liquidity provision services, as well as an integrated lending protocol ("Banker Joe"). The project's core objective is to provide a one-stop, fast and user-friendly platform for trading and other DeFi activities on Avalanche. Joe has become known for introducing innovative features (such as its Liquidity Book AMM for improved trade efficiency) and supporting a broad range of Avalanche-based assets.
D.5	Details of all natural or legal persons involved in the implementation of the crypto-asset project	The project was founded and is developed by an anonymous core team. The co-founders are known by the pseudonyms **"0xMurloc"** and **"Cryptofish."** No official public listing of the team's legal names, business addresses, or external advisors has been provided. Day-to-day implementation of the project is carried out by the in-house development team under the issuer (El Ephjay Corp.). Additional contributors include community developers and partners, but their specific identities and roles are not publicly disclosed.
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	Per the team's public roadmap, the project has achieved several milestones since inception: it launched its core DEX functionality in **2021**, introduced a lending and borrowing feature via **Banker Joe** in late 2021, and implemented an enhanced AMM model called **Liquidity Book** in 2022 to improve capital efficiency. In **2023**, the project expanded beyond the Avalanche network by deploying on additional chains (such as Arbitrum and BNB Chain) and continued to grow its ecosystem (including an NFT marketplace and other integrations). In **2024**, the platform underwent a rebranding to "LFJ" to align with its evolving community identity.

		At the writing of this white-paper the issuer has not published any formal forward-looking roadmap or numerical growth projection.
D.9	Resource Allocation	The project has allocated resources to ensure its development and growth. From the token distribution, approximately **100,000,000 JOE** (20% of total supply) was set aside as a treasury for ongoing development, ecosystem initiatives, and community programs. Additionally, the project secured external funding of about **USD 5 million** in a strategic token sale to investors in Q3 2021, which has been used to, according to team's statement, expand the team and build out the platform's features. Operational revenues (such as platform trading fees) are partly used to reward JOE stakers and support the platform, indirectly contributing to project sustainability. These financial and token-based resources are intended to (according to the team's statement) cover development costs, infrastructure, security audits, and future innovations for the platform.
D.10	Planned Use of Collected Funds or Crypto-Assets	N/A
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	Maximum supply is 500,000,000 JOE
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	Payward Global Solutions Ltd t/a Kraken.com
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 conflict 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 JOE 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	JOE is classified as a crypto-asset other than an asset referenced token or e-money token under MiCA, (EU) 2023/1114.
F.2	Crypto-Asset Functionality	**Fee Sharing and Staking Utility** When staked, JOE enables holders to earn a share of the trading fees generated on the exchange and to gain other benefits (such as higher yield farming rewards or priority in launchpad allocations). **Incentive Mechanism** JOE also functions as an incentive and reward token; it was distributed to liquidity providers and continues to be used to reward users who contribute to the platform (for example, providing liquidity or engaging in certain trading campaigns). In summary, the token's core functionalities are to distribute economic rewards, and to incentivize active participation in the Joe (LFJ) DeFi ecosystem.
F.3	Planned Application of Functionalities	All core functionalities of Joe are live.
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	JOE allows holders to stake and receive a share of protocol fees, and transfer their tokens freely.
F.7	Commercial name or trading name	El Ephjay Corp
F.8	Website of the issuer	https://lfj.gg/
F.9	Starting date of offer to the public or admission to trading	2021-08-09
F.10	Publication date	2025-08-12
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	DMTN3PVDK

F.15	Functionally Fungible Group Digital Token Identifier	N/A
F.16	Voluntary data flag	False
F.17	Personal data flag	false
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, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden
Part G - Information on the rights and obligations attached to the crypto-assets		
G.1	Purchaser Rights and Obligations	**Rights** Holders of JOE are entitled to use the token within the Joe platform to access the utilities and benefits it confers. Specifically: (a) *Economic Rights within Platform* – by staking or locking JOE in designated contracts, holders earn rights to receive a portion of platform fees and/or boosted rewards, effectively allowing them to benefit from the platform's economic activity; (c) *Access to Platform Features* – holding JOE can qualify users for certain exclusive features (such as launchpad events for new tokens, where holding a threshold amount of JOE is required to join). JOE holders also have the right to transfer their tokens freely to others, and if the token is listed on exchanges, to trade their tokens on those markets at any time. Upon transfer of JOE, all associated rights (fee-sharing eligibility, etc.) pass to the new holder, and the previous holder ceases to have those token-based rights. **Obligations** There are no mandatory actions required from JOE holders simply by virtue of holding the token. Ownership of JOE does not impose any debt or further obligation on holders. The only obligations would be general ones applicable to

		all users of the platform or network (such as adhering to the platform's Terms of Service and applicable laws). In summary, JOE holders are free to use or not use the token's utilities at their discretion, without additional obligations.
G.2	Exercise of Rights and obligations	To exercise the rights attached to JOE, holders generally interact with the Joe platform's applications using a compatible cryptocurrency wallet. For instance, to receive fee-sharing rewards, a holder must stake their JOE (or convert it into the stipulated staking form, such as sJOE) through the official Joe web application or smart contract; once staked, rewards are automatically distributed to the holder's wallet per the platform's programmed schedule. Access to launchpad events or boosted yield farming typically requires holding or staking JOE by a certain snapshot time or within a specific contract as outlined in event guidelines. There are no special administrative steps or approvals needed from the issuer to exercise these rights – holding the required amount of JOE and using the publicly available smart contracts or interface is sufficient.
G.3	Conditions for modifications of rights and obligations	The rights and obligations attached to JOE 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 JOE 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	The project team has not announced any future public offers of JOE.
G.5	Issuer Retained Crypto-Assets	The project's team and related entities originally retained **100,000,000 JOE tokens**, which is 20% of the total supply, for founding team allocations.
G.6	Utility Token Classification	False
G.7	Key Features of Goods/Services of Utility Tokens	N/A
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	false
G.13	Supply Adjustment Mechanisms	N/A
G.14	Token Value Protection Schemes	false
G.15	Token Value Protection Schemes Description	N/A
G.16	Compensation Schemes	false
G.17	Compensation Schemes Description	N/A
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 JOE 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	N/A
H.2	Protocols and technical standards	The JOE token is based on the Avalanche C-chain, which utilizes decentralized Distributed-Ledger Technology. This protocol provides the foundation for secure transactions and smart contracts. The ERC20 standard is a technical protocol for issuing and managing tokens, ensuring that the JOE token is compatible with most wallets, exchanges, and decentralized applications (DApps).
H.3	Technology Used	The JOE token uses the existing ERC20 token standard on the Avalanche C-chain.
H.4	Consensus Mechanism	The C-Chain runs Snowman++, a linear form of the leader-less Avalanche consensus secured by Proof-of-Stake; any AVAX-staking validator may propose blocks, and transactions typically finalize in ≈1 second with throughput in the thousands TPS according to the Avalanche team.
H.5	Incentive Mechanisms and Applicable Fees	JOE relies on the existing incentive mechanisms and fee structures of the Avalanche c-chain blockchain.
H.6	Use of Distributed Ledger Technology	False
H.7	DLT Functionality Description	N/A
H.8	Audit	True
H.9	Audit outcome	Independent security reviews completed in 2022: (i) Christoph Michel audit report (1 Feb 2022) found no unresolved high-severity issues after remediation; (ii) Paladin Blockchain Security final report (5 Feb 2022) confirmed 21 of 24 findings fully resolved, leaving no outstanding high-severity items;

		(iii) Certora formal-verification report (Mar 2022) proved the specified contracts correct after patching all high-severity proofs of concept. These three reports are published and accessible to the public. No further public security audits or formal verifications have been announced or released by the issuer since 2022.
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	JoeToken
S.4	Consensus Mechanism	JoeToken is present on the following networks: Arbitrum, Avalanche, Binance Smart Chain. Arbitrum is a Layer 2 solution on top of Ethereum that uses Optimistic Rollups to enhance scalability and reduce transaction costs. It assumes that transactions are valid by default and only verifies them if there's a challenge (optimistic). Core Components: - Sequencer: Orders transactions and creates batches for processing. - Bridge: Facilitates asset transfers between Arbitrum and Ethereum. - Fraud Proofs: Protect against invalid transactions through an interactive verification process. Verification Process: 1. Transaction Submission: Users submit transactions to the Arbitrum Sequencer, which orders and batches them. 2. State Commitment: These batches are submitted to Ethereum with a state commitment.

		3. Challenge Period: Validators have a specific period to challenge the state if they suspect fraud. 4. Dispute Resolution: If a challenge occurs, the dispute is resolved through an iterative process to identify the fraudulent transaction. The final operation is executed on Ethereum to determine the correct state. 5. Rollback and Penalties: If fraud is proven, the state is rolled back, and the dishonest party is penalized. Security and Efficiency: The combination of the Sequencer, bridge, and interactive fraud proofs ensures that the system remains secure and efficient. By minimizing on-chain data and leveraging off-chain computations, Arbitrum can provide high throughput and low fees. The Avalanche blockchain network employs a unique Proof-of-Stake consensus mechanism called Avalanche Consensus, which involves three interconnected protocols: Snowball, Snowflake, and Avalanche. Avalanche Consensus Process: 1. Snowball Protocol: - Random Sampling: Each validator randomly samples a small, constant-sized subset of other validators. - Repeated Polling: Validators repeatedly poll the sampled validators to determine the preferred transaction. - Confidence Counters: Validators maintain confidence counters for each transaction, incrementing them each time a sampled validator supports their preferred transaction.

		- Decision Threshold: Once the confidence counter exceeds a pre-defined threshold, the transaction is considered accepted. 2. Snowflake Protocol: - Binary Decision: Enhances the Snowball protocol by incorporating a binary decision process. Validators decide between two conflicting transactions. - Binary Confidence: Confidence counters are used to track the preferred binary decision. - Finality: When a binary decision reaches a certain confidence level, it becomes final. 3. Avalanche Protocol: - DAG Structure: Uses a Directed Acyclic Graph (DAG) structure to organize transactions, allowing for parallel processing and higher throughput. - Transaction Ordering: Transactions are added to the DAG based on their dependencies, ensuring a consistent order. - Consensus on DAG: While most Proof-of-Stake Protocols use a Byzantine Fault Tolerant (BFT) consensus, Avalanche uses the Avalanche Consensus, Validators reach consensus on the structure and contents of the DAG through repeated Snowball and Snowflake. Binance Smart Chain (BSC) uses a hybrid consensus mechanism called Proof of Staked Authority (PoSA), which combines elements of Delegated Proof of Stake (DPoS) and Proof of Authority (PoA). This method ensures fast block times and low fees while maintaining a level of decentralization and security. Core Components: 1. Validators (so-called “Cabinet Members”): Validators on BSC are responsible for producing new blocks, validating transactions, and maintaining the network’s security. To become a validator, an entity must stake a significant

		amount of BNB (Binance Coin). Validators are selected through staking and voting by token holders. There are 21 active validators at any given time, rotating to ensure decentralization and security. 2. Delegators: Token holders who do not wish to run validator nodes can delegate their BNB tokens to validators. This delegation helps validators increase their stake and improves their chances of being selected to produce blocks. Delegators earn a share of the rewards that validators receive, incentivizing broad participation in network security. 3. Candidates: Candidates are nodes that have staked the required amount of BNB and are in the pool waiting to become validators. They are essentially potential validators who are not currently active but can be elected to the validator set through community voting. Candidates play a crucial role in ensuring there is always a sufficient pool of nodes ready to take on validation tasks, thus maintaining network resilience and decentralization. Consensus Process 4. Validator Selection: Validators are chosen based on the amount of BNB staked and votes received from delegators. The more BNB staked and votes received, the higher the chance of being selected to validate transactions and produce new blocks. The selection process involves both the current validators and the pool of candidates, ensuring a dynamic and secure rotation of nodes. 5. Block Production: The selected validators take turns producing blocks in a PoA-like manner, ensuring that blocks are generated quickly and efficiently. Validators validate transactions, add them to new blocks, and broadcast these blocks to the network. 6. Transaction Finality: BSC achieves fast block times of around 3 seconds and quick transaction finality. This is achieved through the efficient PoSA mechanism that allows validators to rapidly reach consensus. Security and Economic Incentives 7. Staking: Validators are required to stake a substantial amount of BNB, which acts as collateral to ensure their honest behavior. This staked

		amount can be slashed if validators act maliciously. Staking incentivizes validators to act in the network's best interest to avoid losing their staked BNB. 8. Delegation and Rewards: Delegators earn rewards proportional to their stake in validators. This incentivizes them to choose reliable validators and participate in the network's security. Validators and delegators share transaction fees as rewards, which provides continuous economic incentives to maintain network security and performance. 9. Transaction Fees: BSC employs low transaction fees, paid in BNB, making it cost-effective for users. These fees are collected by validators as part of their rewards, further incentivizing them to validate transactions accurately and efficiently.
S.5	Incentive Mechanisms and Applicable Fees	JoeToken is present on the following networks: Arbitrum, Avalanche, Binance Smart Chain. Arbitrum One, a Layer 2 scaling solution for Ethereum, employs several incentive mechanisms to ensure the security and integrity of transactions on its network. The key mechanisms include: 1. Validators and Sequencers: - Sequencers are responsible for ordering transactions and creating batches that are processed off-chain. They play a critical role in maintaining the efficiency and throughput of the network. - Validators monitor the sequencers' actions and ensure that transactions are processed correctly. Validators verify the state transitions and ensure that no invalid transactions are included in the batches. 2. Fraud Proofs: - Assumption of Validity: Transactions processed off-chain are assumed to be valid. This allows for quick transaction finality and high throughput. - Challenge Period: There is a predefined period during which anyone can challenge the validity of a transaction by submitting a fraud proof. This mechanism acts as a deterrent against malicious behavior.

		- Dispute Resolution: If a challenge is raised, an interactive verification process is initiated to pinpoint the exact step where fraud occurred. If the challenge is valid, the fraudulent transaction is reverted, and the dishonest actor is penalized. 3. Economic Incentives: - Rewards for Honest Behavior: Participants in the network, such as validators and sequencers, are incentivized through rewards for performing their duties honestly and efficiently. These rewards come from transaction fees and potentially other protocol incentives. - Penalties for Malicious Behavior: Participants who engage in dishonest behavior or submit invalid transactions are penalized. This can include slashing of staked tokens or other forms of economic penalties, which serve to discourage malicious actions. Fees on the Arbitrum One Blockchain 1. Transaction Fees: - Layer 2 Fees: Users pay fees for transactions processed on the Layer 2 network. These fees are typically lower than Ethereum mainnet fees due to the reduced computational load on the main chain. - Arbitrum Transaction Fee: A fee is charged for each transaction processed by the sequencer. This fee covers the cost of processing the transaction and ensuring its inclusion in a batch. 2. L1 Data Fees: - Posting Batches to Ethereum: Periodically, the state updates from the Layer 2 transactions are posted to the Ethereum mainnet as calldata. This involves a fee, known as the L1 data fee, which accounts for the gas required to publish these state updates on Ethereum. - Cost Sharing: Because transactions are batched, the fixed costs of posting state updates to Ethereum are spread across multiple transactions, making it more cost-effective for users.

		Avalanche uses a consensus mechanism known as Avalanche Consensus, which relies on a combination of validators, staking, and a novel approach to consensus to ensure the network's security and integrity. 1. Validators: Staking: Validators on the Avalanche network are required to stake AVAX tokens. The amount staked influences their probability of being selected to propose or validate new blocks. Rewards: Validators earn rewards for their participation in the consensus process. These rewards are proportional to the amount of AVAX staked and their uptime and performance in validating transactions. Delegation: Validators can also accept delegations from other token holders. Delegators share in the rewards based on the amount they delegate, which incentivizes smaller holders to participate indirectly in securing the network. 2. Economic Incentives: Block Rewards: Validators receive block rewards for proposing and validating blocks. These rewards are distributed from the network’s inflationary issuance of AVAX tokens. Transaction Fees: Validators also earn a portion of the transaction fees paid by users. This includes fees for simple transactions, smart contract interactions, and the creation of new assets on the network. 3. Penalties: - Slashing: Unlike some other PoS systems, Avalanche does not employ slashing (i.e., the confiscation of staked tokens) as a penalty for

		misbehavior.Instead, the network relies on the financial disincentive of lost future rewards for validators who are not consistently online or act maliciously. - Uptime Requirements: Validators must maintain a high level of uptime and correctly validate transactions to continue earning rewards. Poor performance or malicious actions result in missed rewards, providing a strong economic incentive to act honestly. Fees on the Avalanche Blockchain 1. Transaction Fees: - Dynamic Fees: Transaction fees on Avalanche are dynamic, varying based on network demand and the complexity of the transactions. This ensures that fees remain fair and proportional to the network's usage. - Fee Burning: A portion of the transaction fees is burned, permanently removing them from circulation. This deflationary mechanism helps to balance the inflation from block rewards and incentivizes token holders by potentially increasing the value of AVAX over time. 2. Smart Contract Fees: Execution Costs: Fees for deploying and interacting with smart contracts are determined by the computational resources required. These fees ensure that the network remains efficient and that resources are used responsibly. 3. Asset Creation Fees: New Asset Creation: There are fees associated with creating new assets (tokens) on the Avalanche network. These fees help to prevent spam and ensure that only serious projects use the network's resources. Binance Smart Chain (BSC) uses the Proof of Staked Authority (PoSA) consensus mechanism to ensure network security and incentivize participation from validators and delegators.

		Incentive Mechanisms 1. Validators: - Staking Rewards: Validators must stake a significant amount of BNB to participate in the consensus process. They earn rewards in the form of transaction fees and block rewards. - Selection Process: Validators are selected based on the amount of BNB staked and the votes received from delegators. The more BNB staked and votes received, the higher the chances of being selected to validate transactions and produce new blocks. 2. Delegators: - Delegated Staking: Token holders can delegate their BNB to validators. This delegation increases the validator's total stake and improves their chances of being selected to produce blocks. - Shared Rewards: Delegators earn a portion of the rewards that validators receive. This incentivizes token holders to participate in the network's security and decentralization by choosing reliable validators. 3. Candidates: Pool of Potential Validators: Candidates are nodes that have staked the required amount of BNB and are waiting to become active validators. They ensure that there is always a sufficient pool of nodes ready to take on validation tasks, maintaining network resilience. 4. Economic Security: - Slashing: Validators can be penalized for malicious behavior or failure to perform their duties. Penalties include slashing a portion of their staked tokens, ensuring that validators act in the best interest of the network. - Opportunity Cost: Staking requires validators and delegators to lock up their BNB tokens, providing an economic incentive to act honestly to avoid losing their staked assets.

		Fees on the Binance Smart Chain 1. Transaction Fees: - Low Fees: BSC is known for its low transaction fees compared to other blockchain networks. These fees are paid in BNB and are essential for maintaining network operations and compensating validators. - Dynamic Fee Structure: Transaction fees can vary based on network congestion and the complexity of the transactions. However, BSC ensures that fees remain significantly lower than those on the Ethereum mainnet. 2. Block Rewards: Incentivizing Validators: Validators earn block rewards in addition to transaction fees. These rewards are distributed to validators for their role in maintaining the network and processing transactions. 3. Cross-Chain Fees: Interoperability Costs: BSC supports cross-chain compatibility, allowing assets to be transferred between Binance Chain and Binance Smart Chain. These cross-chain operations incur minimal fees, facilitating seamless asset transfers and improving user experience. 4. Smart Contract Fees: Deploying and interacting with smart contracts on BSC involves paying fees based on the computational resources required. These fees are also paid in BNB and are designed to be cost-effective, encouraging developers to build on the BSC platform.
S.6	Beginning of the period to which the disclosure relates	2024-07-05
S.7	End of the period to which the disclosure relates	2025-07-05
S.8	Energy consumption	352.71491 kWh/a

S.9	Energy consumption sources and methodologies	The energy consumption of this asset is aggregated across multiple components: To determine the energy consumption of a token, the energy consumption of the network(s) arbitrum, avalanche, binance_smart_chain 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.