Celo (CELO)
White paper

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

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01	Date of notification	2025-06-12	
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	**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.
08	Characteristics of the crypto-asset	CELO is the native crypto-asset of the Celo blockchain platform. It serves multiple purposes: it is used for transaction fees on the network, can be staked (or delegated) to participate in the network's proof-of-stake consensus, and grants holders governance rights to vote on protocol proposals. CELO has a fixed maximum supply of 1 000 000 000 tokens distributed as follows:

Allocation Type	Token Amount	Total Supply
Pre-launch Sales Purchasers	125 000 000	12,5%
Team, advisors, founders and contributors	185 000 000	18,5%
Staking & Validator Rewards (excluding on-chain community fund)	300 000 000	30%
Community Grants (including on-chain community fund)	195 000 000	19,5%
Operational Grants	75 000 000	7,5%
Initial Reserve	120 000 000	12%
Total Supply	**1 000 000 000**	**100%**

		CELO tokens are freely transferable, in whole or in part, to third parties, and all associated usage rights and obligations follow the token upon transfer.
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 CELO 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 CELO, is subject to general risks inherent to the broader cryptocurrency market. **Market Volatility** The value of CELO 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.

I.2	Issuer-Related Risks	**Operational and Regulatory Risks for the Issuer** The development and support of the Celo network rely in part on the Celo Foundation (issuer) and affiliated entities (such as cLabs). There is a risk that the issuer's financial or operational position could deteriorate, which may adversely impact its ability to support ongoing development and ecosystem initiatives. Changes in key personnel or advisors of the Foundation or related development teams could disrupt the project's progress, loss of experienced developers or leaders might slow technical updates or strategic direction. Additionally, the issuer faces regulatory and legal risks: for instance, if authorities in certain jurisdictions impose restrictions on the Foundation's activities or deem the CELO token to fall under stricter regulatory regimes, the issuer's operations and the token's availability could be negatively affected. Finally, general sector risks (such as downturns in the blockchain industry or loss of community trust in the Foundation) could impair the issuer's capacity to fulfill its support role for the project.
I.3	Crypto-Assets-related Risks	**Market Volatility** The crypto-asset market is subject to significant price volatility, which may affect the value of CELO. 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. CELO 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** 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. **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 and Unlocking Risks
A significant portion of CELO was initially allocated to early contributors and the project's reserve; if a small number of large holders were to sell their holdings once vesting periods end, it could exert downward pressure on the token's price.

| I.4 | Project Implementation-Related Risks | **Development and Adoption Risks**
The Celo project's ongoing technical and strategic initiatives (such as the recent migration to an Ethereum Layer-2 architecture) may encounter unforeseen challenges or delays. Such issues might delay improvements or reduce network performance in the interim.

Competition and Market Evolution
The blockchain sector is highly competitive. Other Layer-1 and Layer-2 networks (some backed by larger communities or resources) compete for the same user base and developers. If Celo fails to keep pace with technological advancements or to differentiate its offering (for instance, in mobile usability or real-world use cases), it could lose relevance, negatively impacting CELO's utility and value.

Execution Risk
The project's roadmap (including improvements to scalability, user experience, or new features) might not be fully achieved or could underperform expectations. External factors such as funding constraints, shifts in community consensus, or partnership setbacks could impede project implementation. This risk means that certain anticipated benefits for CELO holders (such as increased transaction volumes or network effects) might not materialize as planned. |
| I.5 | Technology-Related Risks | **Smart contract risks**
CELO 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
CELO 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 CELO. **Risk of Cryptographic Vulnerabilities** Technological advancements, such as quantum computing, could pose potential risks to cryptocurrencies. **Privacy** Transactions involving CELO 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. **Reliance on Third-Party Technology** The Celo Layer-2 implementation uses the Optimism OP Stack. Any critical vulnerability or failure in the OP Stack framework or its underlying cryptographic assumptions could directly impact Celo's network stability. Similarly, Celo's use of Ethereum as a settlement layer means that issues on Ethereum (such as prolonged congestion or attacks on Ethereum's consensus) could indirectly impair the performance or finality of transactions on Celo.
I.6	Mitigation measures	**Security Audits** The CELO smart contract and related platform contracts have undergone security auditing by Trail of Bits. This audit process helps identify and address potential vulnerabilities, thereby reducing the risk of smart contract failures or exploits. **Use of Established Frameworks** By leveraging the Optimism OP Stack for its Layer-2 architecture, Celo builds on technology that is openly developed and reviewed by a wider blockchain community, which can help in early identification of bugs or issues (any improvements or patches in the Optimism ecosystem can be adopted by Celo as well). **Robust Consensus and Governance Controls** Celo's proof-of-stake system is designed with a distributed set of validators (including organizations with reputational stakes in the network's security) to reduce the risk of any single point of failure. Misbehaving validators can be removed or slashed according to protocol rules, which helps mitigate consensus attacks. The on-chain governance mechanism allows the community to implement fixes or improvements if a vulnerability or critical issue is identified

		(subject to proposal and voting procedures), providing a path to mitigate unforeseen problems.
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	Celo Foundation
B.3	Legal form	Foundation
B.4	Registered address	500 Treat Avenue 100, San Francisco, CA 94110, United States

B.5	Head office	N/A
B.6	Registration Date	2018-06-28
B.7	Legal entity identifier	Not available
B.8	Another identifier required pursuant to applicable national law	Not available
B.9	Parent Company	N/A
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	11-07-2023
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 CELO 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	(see table below)
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).

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

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	Celo

D.2	Crypto-assets name	Celo
D.3	Abbreviation	CELO
D.4	Crypto-asset project description	Celo is an open-source blockchain platform focused on making decentralized financial tools accessible via mobile devices. It was launched in 2020 as a carbon-negative, proof-of-stake network and, in 2025, transitioned to operate as an Ethereum Layer-2 chain for enhanced security and scalability. The platform supports smart contracts and is EVM-compatible, enabling developers to deploy decentralized applications (dApps). A distinctive feature of Celo is its mobile-centric design: it incorporates technology that links phone numbers to crypto wallets, allowing users to send and receive digital assets using phone numbers as proxies for public keys. This is intended to simplify the user experience for people unfamiliar with long cryptographic addresses. Celo's ecosystem includes platform-native stablecoins (e.g., Celo Dollar (cUSD), Celo Euro (cEUR), Celo Brazilian Real (cREAL)) that aim to track the value of their fiat counterparts through a programmatic reserve mechanism.
D.5	Details of all natural or legal persons involved in the implementation of the crypto-asset project	Issuer / Developer: The Celo platform was initially developed by cLabs, Inc. (a software development company) in collaboration with the Celo Foundation, a non-profit entity whose address is 500 Treat Avenue 100, San Francisco, CA 94110, United States. The Celo Foundation (USA) oversees community and ecosystem growth, while cLabs and other contributors provide technical development and maintenance of the protocol. The project's key co-founders are Rene Reinsberg, Marek Olszewski, and Sep Kamvar, who began working on Celo in 2017 and led the launch of the network in 2020. These individuals and their teams played a central role in implementing the Celo blockchain. In addition to the Foundation and cLabs, independent validators and developers worldwide contribute to the ongoing implementation and improvement of the Celo network (for example, companies like Google Cloud and Telefónica have run validator nodes on Celo).
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	Past milestones • April 2020, Mainnet genesis. Celo's Release-Candidate-1 network, launched on Earth Day, was promoted to Mainnet, enabling CELO transfers. • June 2020 – Launch of cUSD. The first native stablecoin (Celo Dollar) went live, bringing a mobile-friendly digital-dollar to the platform. • April 2021, Launch of cEUR & Deutsche Telekom validator. A Euro-denominated stablecoin (cEUR) was activated; on the same day Deutsche Telekom's T-Systems MMS joined as a network validator. • January 2022, Launch of cREAL. The third stablecoin (cREAL) was introduced to serve the Brazilian market, expanding Celo's regional currency suite. • March 2025, Celo Layer-2 mainnet live. Please refer to the project's official channels for any future plans for the token.
D.9	Resource Allocation	30% of CELO was allocated to Staking & Validator Rewards 19,5% to Community Grants 7,5% to Operational Grants 12% to the Initial Reserve Celo also raised ~$65 million in several rounds.
D.10	Planned Use of Collected Funds or Crypto-Assets	The funds from the funding rounds, as well as portions of the Foundation's token treasury, have been used to finance the development of the Celo platform and ecosystem. This includes paying for engineering and security audits, supporting developer grants and community programs, and maintaining operational reserves (such as the Celo Reserve that backs the stablecoins). Going forward, the Foundation's expenditures are expected to continue in these areas: improving core protocol technology, expanding ecosystem utilities (e.g., through partnerships and hackathons), and promoting adoption in target communities.

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	1 000 000 000
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 CELO 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	CELO 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	CELO functions as the native gas token and governance token of the Celo blockchain. Its functionalities include: (a) Governance: holders can use CELO to propose and vote on changes to the protocol's parameters or on-chain governance proposals; (b) Staking and Validation: CELO can be locked (staked) to elect validators who maintain the network; (c) Transaction Fees: CELO can be used to pay for transaction fees (gas) on the network; (d) Reserve Asset: CELO is used within the Celo Reserve to support the value of Celo's stablecoins (CELO's value dynamics help absorb supply/demand changes for the stable assets).
F.3	Planned Application of Functionalities	All core functionalties 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	CELO allows holders to participate in governance, pay gas fees, stake, and transfer their tokens freely.
F.7	Commercial name or trading name	Celo Foundation
F.8	Website of the issuer	https://celo.org/
F.9	Starting date of offer to the public or admission to trading	2020-05-22
F.10	Publication date	2025-07-10
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	VWWMVDM0J
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

Part G - Information on the rights and obligations attached to the crypto-assets

G.1	Purchaser Rights and Obligations	**Rights of CELO Holders:** Holding CELO entitles the purchaser to use the token within the Celo network's functionality. Key rights include: (a) Governance Participation: CELO holders may participate in on-chain governance by voting on proposals that affect the Celo protocol's parameters or upgrades (to exercise this right, holders typically must lock their CELO in a governance smart contract); (b) Staking and Network Participation: holders can stake (or delegate) CELO to contribute to network consensus and earn staking rewards if their chosen validators produce blocks; (c) Value Transfer and Utility: holders have

		the right to transfer CELO freely to others and to use CELO to pay transaction fees on the Celo network or in applications that accept it. **Obligations of CELO Holders:** There are no mandatory obligations imposed on CELO purchasers beyond the general terms of use of the platform. **Transferability and Trading:** Holders have the ability to transfer their CELO tokens to others (on-chain) or to trade them on available markets at will. Ownership of CELO carries with it the aforementioned access rights, and when a token is transferred, those rights pass to the new holder. The previous holder loses access once they no longer hold the token. This means all rights (which are usage rights) are fully transferable with the token.
G.2	Exercise of Rights and obligations	Governance: To exercise governance rights, a CELO holder must lock a portion of their CELO tokens in the official governance contract. Once locked, the holder (or their delegate) can vote on active governance proposals during specified voting periods. Token holders vote by signing transactions. After voting, and once the proposal is decided, holders can later unlock their tokens (subject to an unlocking period). Staking: To participate in staking, a holder can either run a validator node or delegate their CELO to one of the registered validator groups. Delegation is performed on-chain by selecting a validator group and locking CELO in the staking smart contract; this grants the group voting power in validator elections. Rewards are distributed periodically to validators and their delegators. Transactions and Other Uses: Using CELO for transfers or payments requires no special procedure beyond having a compatible wallet. The holder signs a transaction (for example, using a mobile wallet app or web3 interface) and pays a small fee (which can be in CELO or an approved stable asset) to the network. The transaction is then processed by validators and recorded on the blockchain, usually within a few seconds.
G.3	Conditions for modifications of rights and obligations	The rights and obligations attached to CELO 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 Celo 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 issuer has not announced any future public sale of CELO.

G.5	Issuer Retained Crypto-Assets	185 000 000 or 18,5% is allocated to the team
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	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 CELO 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	CELO is implemented on Celo. Celo is a public, EVM-compatible Layer 2 blockchain built on the Optimism stack and secured by Ethereum, using optimistic rollups for scalability.
H.2	Protocols and technical standards	The CELO token is based on the Celo protocol, which utilizes Distributed-Ledger Technology. This protocol provides the foundation for secure transactions and smart contracts. The ERC-20 standard is a technical protocol for issuing and managing tokens, ensuring that the CELO token is compatible with most wallets, exchanges, and decentralized applications (DApps).
H.3	Technology Used	The CELO token uses the existing ERC-20 token standard on Celo.
H.4	Consensus Mechanism	Celo leverages optimistic rollups to scale Ethereum. CELO transactions are executed off-chain and submitted to Ethereum in batches, with L2 finality usually taking 20-30 minutes. Transactions on Celo typically confirm in about a second.

H.5	Incentive Mechanisms and Applicable Fees	Validator and Staking Rewards: Celo validators and their delegators are rewarded for securing the network. A unique aspect of Celo's design is that rewards for validating blocks have been distributed in the platform's stablecoin (cUSD) as well as CELO itself. Transaction Fees: Users pay transaction fees (gas) for operations on the Celo network.
H.6	Use of Distributed Ledger Technology	false
H.7	DLT Functionality Description	N/A
H.8	Audit	true
H.9	Audit outcome	September 2019, Security Assessment (Trail of Bits) 20 High severity issues 4 Medium severity issues 3 Low severity issues 6 Informational severity issues 2 Undetermined severity issues All high- and medium-severity issues were remediated before Mainnet (Sept 2020), as confirmed by Trail of Bits in subsequent patch reviews, although a public line-item fix review was not published. December 2024, Celo L2 Security Assessment (Trail of Bits) 0 High severity issues 2 Medium severity issues (1 fixed, 1 unresolved) 4 Low severity issues (all fixed) 4 Informational severity issues (3 fixed, 1 unresolved) 0 Undetermined severity issues April 2020, CELO Security Assessment (NCC Group) 0 Critical severity issues 0 High severity issues 7 Medium severity issues 20 Low severity issues This audit states: "*The retest performed after the remedial set of actions had been implemented showed that almost all significant issues had been resolved by cLabs, and the ones remaining should be resolved through the initiatives*

		already in place at cLabs".
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	Celo

S.4	Consensus Mechanism	Celo is present on the following networks: Celo, Near Protocol.
		
		Celo uses a Proof of Stake (PoS) consensus model, which supports a decentralized, community-driven approach to governance and network security.
		
		Core Components of Celo's Consensus:
		1. Proof of Stake (PoS):
		    Validator Role: Validators are responsible for creating new blocks, validating transactions, and maintaining the security and integrity of the network. Validators are selected based on the amount of CELO tokens they hold and stake, incentivizing honest participation and network reliability.
		2. Decentralized Governance:
		    Community Voting: Governance on Celo is decentralized, allowing CELO token holders to vote on proposals and changes to the network. This community-driven approach ensures that token holders have a say in the network's development and strategic direction.
		
		The NEAR Protocol uses a unique consensus mechanism combining Proof of Stake (PoS) and a novel approach called Doomslug, which enables high efficiency, fast transaction processing, and secure finality in its operations.
		
		Core Concepts:
		
		1. Doomslug and Proof of Stake:
		  - NEAR's consensus mechanism primarily revolves around PoS, where validators stake NEAR tokens to participate in securing the network. However, NEAR's implementation is enhanced with the Doomslug protocol.
		  - Doomslug allows the network to achieve fast block finality by requiring blocks to be confirmed in two stages. Validators propose blocks in the first step, and finalization occurs when two-thirds of validators approve the block, ensuring rapid transaction confirmation.

		2. Sharding with Nightshade: - NEAR uses a dynamic sharding technique called Nightshade. This method splits the network into multiple shards, enabling parallel processing of transactions across the network, thus significantly increasing throughput. Each shard processes a portion of transactions, and the outcomes are merged into a single "snapshot" block. - This sharding approach ensures scalability, allowing the network to grow and handle increasing demand efficiently. **Consensus Process:** **1. Validator Selection:** - Validators are selected to propose and validate blocks based on the amount of NEAR tokens staked. This selection process is designed to ensure that only validators with significant stakes and community trust participate in securing the network. **2. Transaction Finality:** - NEAR achieves transaction finality through its PoS-based system, where validators vote on blocks. Once two-thirds of validators approve a block, it reaches finality under Doomslug, meaning that no forks can alter the confirmed state. **3. Epochs and Rotation:** - Validators are rotated in epochs to ensure fairness and decentralization. Epochs are intervals in which validators are reshuffled, and new block proposers are selected, ensuring a balance between performance and decentralization
S.5	Incentive Mechanisms and Applicable Fees	Celo is present on the following networks: Celo, Near Protocol. Celo's incentive model rewards validators and prioritizes accessibility with minimal transaction fees, especially for cross-border payments, supporting a flexible and user-friendly ecosystem. Incentive Mechanisms: **1. Validator Rewards:** Transaction Fees and Newly Minted Tokens: Validators earn rewards from transaction fees as well as newly minted CELO tokens. This dual-source reward system provides a continuous financial incentive for validators to act honestly and secure the network. **2. Transaction Flexibility and Gas Price:**

- Gas Limit and Price Control: Each transaction specifies a maximum gas limit, ensuring that users are not excessively charged if a transaction fails. Users can also set a gas price to prioritize transactions, allowing faster processing for higher fees.
- Payment Flexibility with Multiple Currencies: Unlike many blockchains, Celo allows transaction fees to be paid in various ERC-20 tokens, providing flexibility for users. This approach improves accessibility, especially for individuals with limited access to traditional banking.

3. Minimal Fee Structure for Accessibility:
- Designed for Low-Cost Transactions: Celo's fee structure is intentionally minimal, particularly for cross-border payments, making it ideal for users who may not have traditional banking options. This focus on accessibility aligns with Celo's mission to bring blockchain technology to underserved communities.

Applicable Fees:
Transaction Fees: Fees are calculated based on gas usage, with a maximum gas limit set per transaction. This limit protects users from excessive costs, while the option to pay in multiple currencies enhances flexibility.

NEAR Protocol employs several economic mechanisms to secure the network and incentivize participation.

Incentive Mechanisms to Secure Transactions:

1. Staking Rewards:
Validators and delegators secure the network by staking NEAR tokens. Validators earn around 5% annual inflation, with 90% of newly minted tokens distributed as staking rewards. Validators propose blocks, validate transactions, and receive a share of these rewards based on their staked tokens. Delegators earn rewards proportional to their delegation, encouraging broad participation.

2. Delegation:
Token holders can delegate their NEAR tokens to validators to increase the validator's stake and improve the chances of being selected to validate transactions. Delegators share in the validator's rewards based on their delegated tokens, incentivizing users to support reliable validators.

3. Slashing and Economic Penalties:
Validators face penalties for malicious behavior, such as failing to validate correctly or acting dishonestly. The slashing mechanism

enforces security by deducting a portion of their staked tokens, ensuring validators follow the network's best interests.

4. Epoch Rotation and Validator Selection:
Validators are rotated regularly during epochs to ensure fairness and prevent centralization. Each epoch reshuffles validators, allowing the protocol to balance decentralization with performance.

Fees on the NEAR Blockchain:

1. Transaction Fees:
Users pay fees in NEAR tokens for transaction processing, which are burned to reduce the total circulating supply, introducing a potential deflationary effect over time. Validators also receive a portion of transaction fees as additional rewards, providing an ongoing incentive for network maintenance.

2. Storage Fees:
NEAR Protocol charges storage fees based on the amount of blockchain storage consumed by accounts, contracts, and data. This requires users to hold NEAR tokens as a deposit proportional to their storage usage, ensuring the efficient use of network resources.

3. Redistribution and Burning:
A portion of the transaction fees (burned NEAR tokens) reduces the overall supply, while the rest is distributed to validators as compensation for their work. The burning mechanism helps maintain long-term economic sustainability and potential value appreciation for NEAR holders.

4. Reserve Requirement:
Users must maintain a minimum account balance and reserves for data storage, encouraging efficient use of resources and preventing spam attacks.

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	39420.00000 kWh/a

| S.9 | Energy consumption sources and methodologies | The energy consumption of this asset is aggregated across multiple components:

For the calculation of energy consumptions, the so called "bottom-up" approach is being used. The nodes are considered to be the central factor for the energy consumption of the network. These assumptions are made on the basis of empirical findings through the use of public information sites, open-source crawlers and crawlers developed in-house. The main determinants for estimating the hardware used within the network are the requirements for operating the client software. The energy consumption of the hardware devices was measured in certified test laboratories. When calculating the energy consumption, we used - if available - the Functionally Fungible Group Digital Token Identifier (FFG DTI) to determine all implementations of the asset of question in scope and we update the mappings regularly, based on data of the Digital Token Identifier Foundation. 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.

To determine the energy consumption of a token, the energy consumption of the network(s) celo, near_protocol 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. |
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