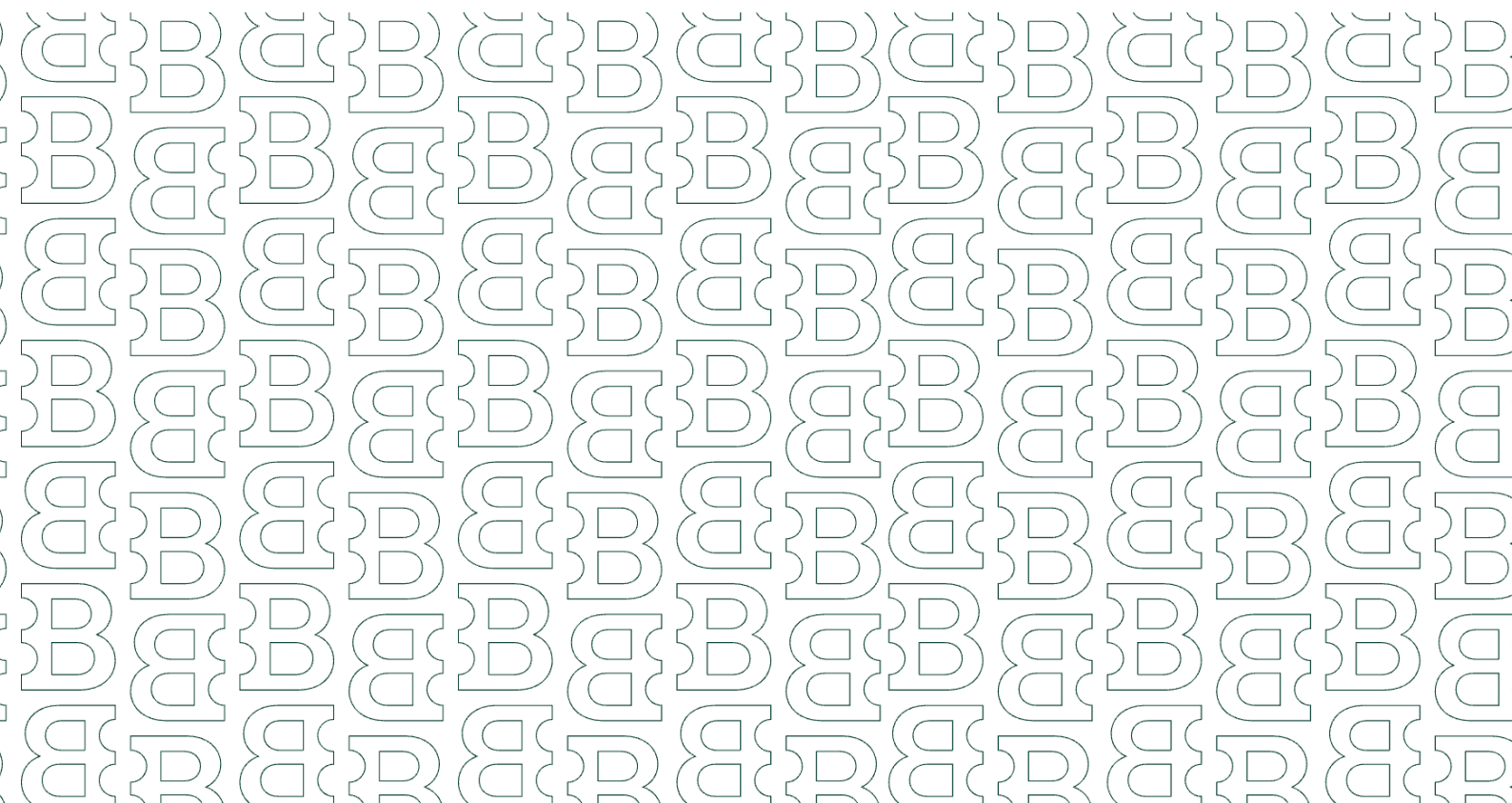# Pudgy Penguins

(PENGU)

MiCAR White Paper

Dated: 24 July 2025

Preamble

Please note that this white paper was solely prepared by Crypto Risk Metrics GmbH for Bitstamp Europe S. A. No other party has the right to use the content of this document for his or her private or commercial purposes. Crypto Risk Metrics GmbH is not liable for any of the information laid out in this document. This document is not to be considered as investment advice.

00. Table of Contents

01. Date of notification

2025-05-29

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 person seeking admission to trading 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 has not been approved by any competent authority in any Member State of the European Union. The person seeking admission to trading of the crypto-asset is solely responsible for the content of this crypto-asset white paper.

04. Statement in accordance with Article 6(5), points (a), (b), (c), of Regulation (EU) 2023/1114

The crypto-asset referred to in this crypto-asset 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

Since the token has multiple functions (hybrid token), these are already conceptually not utility tokens within the meaning of the MiCAR within the definition of Article 3 (1), due to the necessity of the "exclusivity".

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 or 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 offer to the public of this crypto-asset does not constitute an offer or solicitation to purchase financial instruments and any such offer or solicitation can be made only by means of a prospectus or other offer documents pursuant to the applicable national law. This crypto-asset white paper does not constitute a prospectus as referred to in Regulation (EU) 2017/1129 of the European Parliament and of the Council or any other offer document pursuant to Union or national law.

08. Characteristics of the crypto-asset

Pudgy Penguins tokens this white paper refers to are crypto-assets other than EMTs and ARTs, which are currently available on the Solana blockchain (at the time of writing this white paper (2025-05-28) and according to DTI FFG shown in F.14).

The initial production of the 88,888,888,888 tokens (the so-called "mint") took place on November 29, 2024 23:15:04 +UTC (see transaction hash: 5mSLwwmFe7rmREBvhp4YR8B5hveTHQ6NhRkJrcY5ZUVmXeMC8rdsHRRkxj8s4EG6NGYJ 1PTYL2ssRuQ28V2gsBKo).

09. Information about the quality and quantity of goods or services to which the utility tokens give access and restrictions on the transferability

Since the token has multiple functions (hybrid token), these are already conceptually not utility tokens within the meaning of the MiCAR within the definition of Article 3 (1), due to the necessity of the "exclusivity".

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

The token has been admitted to trading to the trading platform operated by Bitstamp Europe S.A. on its own initiative.

Part A – Information about the offeror or the person seeking admission to trading

A.1 Name

Bitstamp Europe S.A.

A.2 Legal form

5GGB

A.3 Registered address

LU, 40, avenue Monterey, L-2163 Luxembourg, Grand Duchy of Luxembourg

A.4 Head office

Not applicable.

A.5 Registration date

2015-05-19

A.6 Legal entity identifier

549300XIBGTJ0PLIEO72

A.7 Another identifier required pursuant to applicable national law

Bitstamp Europe S.A. is registered with the Luxembourg Trade and Companies Register under the number B196856.

A.8 Contact telephone number

+35220881096

A.9 E-mail address

info@bitstamp.net

A.10 Response time (Days)

030

A.11 Parent company

Robinhood Markets, Inc with its registered office at 85 Willow Road, Menlo Park, California 94025, USA.

A.12 Members of the management body

Name	Position	Address
Johann Kerbrat	Director	40, Avenue Monterey, L-2163 Luxembourg, Grand Duchy of Luxembourg
Robert Caplehorn	Director	40, Avenue Monterey, L-2163 Luxembourg, Grand Duchy of Luxembourg

A.13 Business activity

Bitstamp Europe S.A. is a Crypto-Asset Service Provider authorized with the CSSF under the number N00000003 to provide the following crypto-asset services:

· providing custody and administration of crypto-assets on behalf of clients;

· operation of a trading platform for crypto-assets;

· exchange of crypto-assets for funds;

· exchange of crypto-assets for other crypto-assets;

· execution of orders for crypto-assets on behalf of clients;

· reception and transmission of orders for crypto-assets on behalf of clients; and

· providing transfer services for crypto-assets on behalf of clients.

Bitstamp Europe S.A. is a payment institution authorized with the CSSF under number Z00000012 to provide the following payment services:

3.a) execution of direct debits, including one-off direct debits,

3.b) execution of payment transactions through a payment card or a similar device,

3.c) execution of credit transfers, including standing orders and

6.) money remittance.

Bitstamp Europe S.A. has notified the cross border provision of crypto-asset and payment services in all EU and EEA member states.

Bitstamp has admitted the asset to which this white paper relates to trading on its own initiative on its trading platform.

A.14 Parent company business activity

Robinhood Markets, Inc is the holding company for the Robinhood group.

A.15 Newly established

Bitstamp Europe S.A. has been established since 2015 and is therefore not newly established (i. e. older than three years).

A.16 Financial condition for the past three years

Bitstamp Europe S.A. is a well-capitalized entity and, for the fiscal years 2024 and 2023, has been profitably operating. Shareholders' equity for the last three years is as follows:

31 December 2024: 38 million EUR;

31 December 2023: 26 million EUR;

31 December 2022: 25.8 million EUR.

The regulatory capital requirement as of 2024-12-31, for Bitstamp Europe S.A. was 3.3 million EUR and is projected to be approximately 11.7 million EUR upon securing the MiCAR license.

Bitstamp Europe S.A.'s profit after tax for the last three financial years are as follows:

2024 (unaudited): 12,2 million EUR;

2023: 0.2 million EUR;

2022: negative 13.6 million EUR.

The 2022 results reflect the broader crypto winter environment in the market, while the turnaround in 2023 and significant profits in 2024 highlight the company's strong recovery and financial performance.

A.17 Financial condition since registration

This point would only be applicable if the company were newly established and the financial conditions for the past three years had not been provided in the bulletpoint before.

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

Yes

B.2 Name

On the project's official website ("https://www.pudgypenguins.com/pengu", accessed on 2025-05-28), "LSLTTT HOLDINGS INC" is named as the entity responsible for the crypto-asset. This company also holds the related IP-rights.

B.3 Legal form

8N21, Limited Liability Company

B4. Registered address

16192 Coastal Highway, Lewes, DE 19958. Based on information from the website, whereby the information cannot be verified independently.

B.5 Head office

16192 Coastal Highway, Lewes, DE 19958. Based on information from the website, whereby the information cannot be verified independently.

B.6 Registration date

Could not be found while drafting this white paper (2025-05-28).

B.7 Legal entity identifier

Could not be found while drafting this white paper (2025-05-28).

B.8 Another identifier required pursuant to applicable national law

Not applicable.

B.9 Parent company

Due to no entries in public registers, this information cannot be verified independently.

B.10 Members of the management body

Due to no entries in public registers, this information cannot be verified independently.

B.11 Business activity

According to the trademark register "Justia", "LSLTTT HOLDINGS INC." holds various trademarks.

B.12 Parent company business activity

Due to no entries in public registers, this information cannot be verified independently.

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

Bitstamp Europe S.A.

C.2 Legal form

5GGB

C.3 Registered address

LU, 40, avenue Monterey, L-2163 Luxembourg, Grand Duchy of Luxembourg

C.4 Head office

Not applicable.

C.5 Registration date

2015-05-19

C.6 Legal entity identifier

549300XIBGTJ0PLIEO72

C.7 Another identifier required pursuant to applicable national law

Not applicable.

C.8 Parent company

Robinhood Markets, Inc with its registered office at 85 Willow Road, Menlo Park, California 94025, USA.

C.9 Reason for crypto-Asset white paper Preparation

As a MiCAR-licensed operator of the trading platform, Bitstamp Europe S.A. shall comply with the requirements set out in Article 5 of MiCAR when admitting to trading on its own

initiative a crypto-asset for which no white paper has been published in accordance with MiCAR. In such cases, including admission of the token to trading, Bitstamp Europe S.A. shall provide, notify and publishing the crypto-asset white paper in accordance with the relevant provisions of MiCAR.

C.10 Members of the Management body

Name	Position	Address
Johann Kerbrat	Director	40, Avenue Monterey, L-2163 Luxembourg, Grand Duchy of Luxembourg
Robert Caplehorn	Director	40, Avenue Monterey, L-2163 Luxembourg, Grand Duchy of Luxembourg

C.11 Operator business activity

Bitstamp Europe S.A. is a Crypto-Asset Service Provider authorized with the CSSF under the number N00000003 to provide the following crypto-asset services:

· providing custody and administration of crypto-assets on behalf of clients;

· operation of a trading platform for crypto-assets;

· exchange of crypto-assets for funds;

· exchange of crypto-assets for other crypto-assets;

· execution of orders for crypto-assets on behalf of clients;

· reception and transmission of orders for crypto-assets on behalf of clients; and

· providing transfer services for crypto-assets on behalf of clients.

Bitstamp Europe S.A. is a payment institution authorized with the CSSF under number Z00000012

to provide the following payment services:

3.a) execution of direct debits, including one-off direct debits,

3.b) execution of payment transactions through a payment card or a similar device,

3.c) execution of credit transfers, including standing orders and

6.) money remittance.

Bitstamp Europe S.A. has notified the cross border provision of crypto-asset and payment services in all EU and EEA member states.

Bitstamp has admitted the asset, to which this white paper relates to, to trading on its own initiative on its trading platform.

C.12 Parent company business activity

Robinhood Markets, Inc is the holding company for the Robinhood group.

C.13 Other persons drawing up the crypto-asset white paper according to Article 6(1), second subparagraph, of Regulation (EU) 2023/1114

Crypto Risk Metrics GmbH, Lange Reihe 73, 20099 Hamburg

C.14 Reason for drawing the white paper by persons referred to in Article 6(1), second subparagraph, of Regulation (EU) 2023/1114

Crypto Risk Metrics GmbH, Lange Reihe 73, 20099 Hamburg, was mandated to draw up the white paper by Bitstamp Europe S.A.

Part D – Information about the crypto-asset project

D.1 Crypto-asset project name

Long Name: "Pudgy Penguins", Short Name: "PENGU" according to the Digital Token Identifier Foundation (www.dtif.org, DTI see F.13, FFG DTI see F.14 as of 2025-05-27).

D.2 Crypto-assets name

See F.13.

D.3 Abbreviation

See F.13.

D.4 Crypto-asset project description

Pengu is a meme-inspired crypto asset launched in December 2024 on the Solana blockchain. It is tied to the popular NFT collection Pudgy Penguins, a widely recognized digital brand known for its cartoon penguin avatars and expansive online community.

The token was introduced as part of a broader effort by LSLTTT Holdings Inc., the company that owns and operates the Pudgy Penguins intellectual property. While the project carries an element of meme culture, it also aims to provide community incentives, ecosystem engagement, and potential integration with physical merchandise like Pudgy Toys.

Unlike many meme coins, Pengu is supported by a formal corporate entity and includes elements of structured tokenomics.

Nevertheless, the project is set up as a pure "meme" project and does not grant any substantial rights to investors.

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

Name	Role
Intro	The following persons or references for persons involved are published on the official website of the project (https://www.pudgypenguins.com/about-us) at the time of writing the white paper (2025-05-28). It cannot be confirmed that there are real people behind these references, nor whether they are actually involved and whether other people are

	involved.
Luca Netz	CEO
Lorenzo Melendez	President
Austin	Head of marketing
Peter Lobanov	CCO
Jennifer Mcglone	CLO
Vedant	Head of strategy

D.6 Utility Token Classification

The token does not classify as a utility token.

D.7 Key Features of Goods/Services for Utility Token Projects

Not applicable.

D.8 Plans for the token

At the time of writing this white paper (2025-05-28), no future plans for the crypto-asset were to be found.

D.9 Resource allocation

The issuer's official website (https://www.pudgypenguins.com/pengu) provides information on the planned use of the funds. The investor faces risks due to the uncertainty of the distribution of the tokens.

Likewise, the investor must be aware that a planned distribution of funds is not technically binding – it is only a planned use and not a technically fixed distribution. The following entities are involved in the token distribution: "Current & Future Team" (17,8%), "Liquidity" (12,35%), "Public Good" (4%), "Proliferation" (4%), "FTT Holders" (0,35%), "Company" (11,48%), "Pudgy community" (25,9%), "Other communities" (24,12%).

The actual distribution of tokens can be traced on-chain: https://solscan.io/token/2zMMhcVQEXDtdE6vsFS7S7D5oUodfJHE8vd1gnBouauv#holders. The investor must be aware that a public address cannot necessarily be assigned to a single person or other entity why the economic justification and thus possible future actions cannot be determined.

D.10 Planned use of Collected funds or crypto-Assets

No information was available for this crypto-asset on the website.

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

The white paper concerns the admission to trading on the initiative of Bitstamp Europe S.A. as the operator of the MiCAR-regulated trading platform.

E.2 Reasons for public offer or admission to trading

Bitstamp Europe S.A. has admitted the token to trading based on its market considerations.

E.3 Fundraising target

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.4 Minimum subscription goals

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.5 Maximum subscription goals

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.6 Oversubscription acceptance

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.7 Oversubscription allocation

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.8 Issue price

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.9 Official currency or any other crypto-assets determining the issue price

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.10 Subscription fee

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.11 Offer price determination method

Once the token is admitted to trading its price will be determined by demand (buyers) and supply (sellers).

E.12 Total number of offered/traded crypto-assets

As stated on the website: https://solscan.io/tx/5mSLwwmFe7rmREBvhp4YR8B5hveTHQ6NhRkJrcY5ZUVmXeMC8rd sHRRkxj8s4EG6NGYJ1PTYL2ssRuQ28V2gsBKo, a total of 88,888,888,888 tokens were minted.

E.13 Targeted holders

ALL

E.14 Holder restrictions

Bitstamp Europe S.A. offers trading of the token to all its clients without restrictions on services or account functionalities. However, Bitstamp Europe S.A. does not provide access to trading or related services to individuals or entities located in restricted jurisdictions, subject to sanctions, or otherwise limited in their use of its services.

E.15 Reimbursement notice

Not applicable.

E.16 Refund mechanism

Not applicable.

E.17 Refund timeline

Not applicable.

E.18 Offer phases

Not applicable.

E.19 Early purchase discount

Not applicable.

E.20 Time-limited offer

Not applicable.

E.21 Subscription period beginning

Not applicable.

E.22 Subscription period end

Not applicable.

E.23 Safeguarding arrangements for offered funds/crypto- Assets

Not applicable.

E.24 Payment methods for crypto-asset purchase

The token will be available for trading on Bitstamp Europe S.A. trading platform. The token can be purchased there by using deposited funds or any other valid form of payment available on the trading platform.

E.25 Value transfer methods for reimbursement

Not applicable.

E.26 Right of withdrawal

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.27 Transfer of purchased crypto-assets

When a client purchases a token on the Bitstamp Europe S.A.'s trading platform, the crypto-asset will be credited to their Bitstamp account. If a client wants to hold the token in their own wallet, they will need to (i) provide an external blockchain wallet address, where the crypto-assets will be sent if a withdrawal is initiated and (ii) satisfy all other requirements applicable to a withdrawal in line with the Regulation (EU) 2023/1113 of the European Parliament and of the Council of 31 May 2023 on information accompanying transfers of funds and certain crypto-assets.

E.28 Transfer time schedule

Not applicable, as this white paper is written to support admission to trading and not for the initial offer to the public.

E.29 Purchaser's technical requirements

When a client purchases a token on the Bitstamp Europe S.A.'s trading platform, the crypto-asset will be credited to their Bitstamp account and a client does not need to fulfill any other technical requirement to hold the crypto-assets on their Bitstamp account, apart from have either a computer or phone with an internet connection and appropriate software in order to interact with the Bitstamp services.

E.30 Crypto-asset service provider (CASP) name

Not applicable, as Bitstamp Europe S.A. has admitted the token to trading on its platform on its own initiative and is neither the offeror nor in charge of placing the token.

E.31 CASP identifier

Not applicable.

E.32 Placement form

Not applicable.

E.33 Trading platforms name

Bitstamp Europe S.A.

E.34 Trading platforms Market identifier code (MIC)

BESA

E.35 Trading platforms access

Investors can access the trading platform through https://www.bitstamp.net or via the Bitstamp applications.

E.36 Involved costs

There are no costs involved in creating an account on the trading platform, however trading fees and other costs apply in accordance with the fee schedule available at https://www.bitstamp.net/fee-schedule.

E.37 Offer expenses

Not applicable, as Bitstamp Europe S.A. has only admitted token to trading on its platform on its own initiative and has not been involved in offering the token to the public.

E.38 Conflicts of interest

There are no conflicts of interest of the persons involved in the admission to trading. Bitstamp has a strict conflicts of interest policy in place that actively prevents conflicts of

interest in the respective functions by limiting their exposure to the crypto-assets in question.

There are no conflicts of interest of the persons involved in the admission to trading. Bitstamp Group has a strict Code of Conduct and Trading Policy in place. They both mitigate the possibility of conflicts of interest.

In accordance with the Code of Conduct all officers, directors, employees, agents, representatives, contractors and consultants (and other persons, regardless of job or position), are required to report any situation where there is the potential for conflict of interest between their interests and interests of Bitstamp. The Trading Policy that is in place within the Bitstamp Group prohibits all forms of market manipulation and has been designed to prevent insider trading.

E.39 Applicable law

Not applicable, as this point pertains to an "offer to the public," whereas this white paper relates to admission to trading.

E.40 Competent court

Not applicable, as this point pertains to an "offer to the public," whereas this white paper relates to admission to trading.

Part F – Information about the crypto-assets

F.1 Crypto-asset type

The crypto-asset described in the white paper is classified as a crypto-asset under the Markets in Crypto-Assets Regulation (MiCAR) but does not qualify as an electronic money token (EMT) or an asset-referenced token (ART). It is a fungible digital representation of value that can be stored and transferred using distributed ledger technology (DLT) or similar technology, without embodying or conferring any rights to its holder.

The asset does not aim to maintain a stable value by referencing an official currency, a basket of assets, or any other underlying rights. Instead, its valuation is entirely market-

driven, based on supply and demand dynamics, and not supported by a stabilization mechanism. It is neither pegged to any fiat currency nor backed by any external assets, distinguishing it clearly from EMTs and ARTs.

Furthermore, the crypto-asset is not categorized as a financial instrument, deposit, insurance product, pension product, or any other regulated financial product under EU law. It does not grant financial rights, voting rights, or any contractual claims to its holders, ensuring that it remains outside the scope of regulatory frameworks applicable to traditional financial instruments.

F.2 Crypto-asset functionality

Pengu is a meme-based utility token within the Pudgy Penguins ecosystem. It may be used for community participation, access to exclusive content, and potential rewards. While it reflects the playful spirit of the brand, it offers no guarantees of value, utility, or future benefits.

Since the token has multiple functions (hybrid token), these are already conceptually not utility tokens within the meaning of the MiCAR within the definition of Article 3 (1), due to the necessity of the "exclusivity".

F.3 Planned application of functionalities

All functionalities referred to in F.2 have already been applied. There were no statements to be found to further functionalities for the token while drafting this white paper (2025-05-28).

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 crypto-asset white paper

The white paper type is "other crypto-assets" (i. e. "OTHR").

F.5 The type of submission

The white paper submission type is "NEWT", which stands for new token.

F.6 Crypto-asset characteristics

The tokens are crypto-assets other than EMTs and ARTs, which are available on the Solana blockchain. The tokens are fungible (up to 6 digits after the decimal point), and a total of 88,888,888,888 have already been issued. The tokens are a digital representation of value, and have no inherent rights attached as well as no intrinsic utility.

F.7 Commercial name or trading name

See F.13.

F.8 Website of the issuer

https://www.pudgypenguins.com/pengu

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

2025-08-04

F.10 Publication date

2025-07-28

F.11 Any other services provided by the issuer

The issuer of the token is (most likely) a US-based entity and due to the lack of publicly available information and resources while drawing up this white paper (2025-05-28) it is not possible to exclude a possibility that the issuer of the token provides or will provide other services not covered by Regulation (EU) 2023/1114 (i.e. MiCAR).

F.12 Language or languages of the crypto-asset white paper

EN

F.13 Digital token identifier code used to uniquely identify the crypto-asset or each of the several crypto assets to which the white paper relates, where available

XNT9ZM8KB

F.14 Functionally fungible group digital token identifier, where available

13JBPT88T

F.15 Voluntary data flag

Mandatory

F.16 Personal data flag

The white paper does contain personal data.

F.17 LEI eligibility

The issuer should be eligible for a Legal Entity Identifier.

F.18 Home Member State

Luxembourg

F.19 Host Member States

The token is available for trading to clients of Bitstamp Europe S.A. residing in any EU or EEA country.

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

G.1 Purchaser rights and obligations

No legally binding real or contractual obligations are linked to the crypto-asset. The technically possible governance participations and functionalities described in F.2 cannot be independently verified and it cannot be guaranteed that these promises have legal binding force that an investor can enforce.

G.2 Exercise of rights and obligations

As the token grants no legal binding rights nor obligations, there are no procedures and conditions for the exercise of these rights applicable.

The promise of governance participation is based on technical circumstances and relies on smart contract functionalities and voting platforms. It is not certain whether this infrastructure will be available for use of these governance functions on a permanent basis.

G.3 Conditions for modifications of rights and obligations

As the token grants no legal binding rights nor obligations, there are no procedures and conditions for the exercise of these rights applicable.

An adjustment of the technical infrastructure necessary to exercise the promised governance rights, declining functionality due to dilution, changing rights within the voting platforms, and all other adverse effects for investors may occur at any time.

G.4 Future public offers

Information on the future offers to the public of crypto-assets were not available at the time of writing this white paper (2025-05-28).

G.5 Issuer retained crypto-assets

The issuer's official website (https://www.pudgypenguins.com/pengu) provides information on the planned use of the funds. The investor faces risks due to the uncertainty of the distribution of the tokens.

Likewise, the investor must be aware that a planned distribution of funds is not technically binding – it is only a planned use and not a technically fixed distribution. The following entities are involved in the token distribution: "Current & Future Team" (17,8%), "Liquidity" (12,35%), "Public Good" (4%), "Proliferation" (4%), "FTT Holders" (0,35%), "Company" (11,48%), "Pudgy community" (25,9%), "Other communities" (24,12%).

The actual distribution of tokens can be traced on-chain: https://solscan.io/token/2zMMhcVQEXDtdE6vsFS7S7D5oUodfJHE8vd1gnBouauv#holders. The investor must be aware that a public address cannot necessarily be assigned to a single person or other entity why the economic justification and thus possible future actions cannot be determined.

G.6 Utility token classification

No

G.7 Key features of goods/services of utility tokens

Not applicable.

G.8 Utility tokens redemption

Not applicable.

G.9 Non-trading request

This white paper was prepared to be able to admit the crypto-asset to trading.

G.10 Crypto-assets purchase or sale modalities

Not applicable, as the token is admitted to trading on the trading platform operated by Bitstamp Europe S.A.

G.11 Crypto-assets transfer restrictions

The crypto-assets as such do not have any transfer restrictions and are generally freely transferable. Bitstamp will employ the same restrictions to the token as to the other crypto-assets listed on their trading platform and strictly abide by the applicable laws in the European Union.

G.12 Supply adjustment protocols

No, there are no fixed protocols that can increase or decrease the supply implemented as of 2025-05-28. Nevertheless, it is possible that the owner of the smart-contract has the ability to increase or decrease the token-supply in response to changes in demand. Also, it is possible to decrease the circulating supply, by transferring crypto-assets to so called "burn-adresses", which are adresses that render the crypto-asset "non-transferable" after sent to those adresses.

G.13 Supply adjustment mechanisms

The mint authority (the entity who can create new tokens of that crypto-asset), as stated in the data account, has the potential right to change the supply of the crypto-assets. However, since the mint authority was revoked, it should not be possible to increase the token supply, however the whole data account could be updated which then in turn could lead to a situation that total suppy could be altered again.

G.14 Token value protection schemes

No, the token does not have value protection schemes.

G.15 Token value protection schemes description

Not applicable.

G.16 Compensation schemes

No, the token does not have compensation schemes.

G.17 Compensation schemes description

Not applicable.

G.18 Applicable law

The token is not subject to any predetermined court jurisdiction. Competent court likely depends on the location of any particular party and/or the location of any particular transaction with the token.

G.19 Competent court

The token is not subject to any predetermined court jurisdiction. Competent court likely depends on the location of any particular party and/or the location of any particular transaction with the token.

Part H – information on the underlying technology

H.1 Distributed ledger technology (DTL)

Bitstamp Europe S.A. is not involved either in maintenance or in development of the distributed ledger technology used to issue the token or to validate its transfers. The description below is based on information publicly available at the time of preparation of this white paper.

The Solana Blockchain (FFG DTI: 6QZ1LNC12): Solana is a permissionless blockchain designed for scalability and high transaction throughput. At the time of writing of this white paper, it employs Proof of Stake (PoS) and Proof of History (PoH) to enhance efficiency and reduce latency.

H.2 Protocols and technical standards

The tokens were created with Solana's Token Program, a smart contract that is part of the Solana Program Library (SPL). Such tokens are commonly referred to as SPL-token. The token itself is not an additional smart contract, but what is called a data account on Solana. As the name suggests data accounts store data on the blockchain. However, unlike smart contracts, they cannot be executed and cannot perform any operations. Since one cannot interact with data accounts directly, any interaction with an SPL-token is done via Solana's Token Program. The source code of this smart contract can be found here https://github.com/solana-program/token.

The Token Program is developed in Rust, a memory-safe, high-performance programming language designed for secure and efficient development. On Solana, Rust is said to be the primary language used for developing on-chain programs (smart contracts), intended to ensure safety and reliability in decentralized applications (dApps).

Core functions of the Token Program:

initialize_mint() → Create a new type of token, called a mint

mint_to() → Mints new tokens of a specific type to a specified account

burn() → Burns tokens from a specified account, reducing total supply

transfer() → Transfers tokens between accounts

approve() → Approves a delegate to spend tokens on behalf of the owner

set_authority() → Updates authorities (mint, freeze, or transfer authority)

These functions ensure basic operations like transfers, and minting/burning can be performed within the Solana ecosystem.

In addition to the Token Program, another smart contract, the Metaplex Token Metadata Program is commonly used to store name, symbol, and URI information for better ecosystem compatibility. This additional metadata has no effect on the token's functionality.

H.3 Technology used

1. Solana-Compatible Wallets: The tokens are supported by all wallets compatible with Solana's Token Program

2. Decentralized Ledger: The Solana blockchain acts as a decentralized ledger for all token transactions, with the intention to preserving an unalterable record of token transfers and ownership to ensure both transparency and security.

3. SPL Token Program: The SPL (Solana Program Library) Token Program is an inherent Solana smart contract built to create and manage new types of tokens (so called mints). This is significantly different from ERC-20 on Ethereum, because a single smart contract that is part of Solana's core functionality and as such is open source, is responsible for all the tokens. This ensures a high uniformity across tokens at the cost of flexibility.

4. Blockchain Scalability: With its intended capacity for processing a lot of transactions per second and in most cases low fees, Solana is intended to enable efficient token transactions, maintaining high performance even during peak network usage.

Security Protocols for Asset Custody and Transactions:

1. Private Key Management: To safeguard their token holdings, users must securely store their wallet's private keys and recovery phrases.

2. Cryptographic Integrity: Solana employs elliptic curve cryptography to validate and execute transactions securely, intended to ensure the integrity of all transfers.

H.4 Consensus mechanism

Solana uses a combination of Proof of History (PoH) and Proof of Stake (PoS). The core concepts of the mechanism are intended to work as follows:

Core Concepts

1. Proof of History (PoH):

Time-Stamped Transactions: PoH is a cryptographic technique that timestamps transactions, intended to creating a historical record that proves that an event has occurred at a specific moment in time.

Verifiable Delay Function: PoH uses a Verifiable Delay Function (VDF) to generate a unique hash that includes the transaction and the time it was processed. This sequence of hashes provides a verifiable order of events, intended to enabling the network to efficiently agree on the sequence of transactions.

2. Proof of Stake (PoS):

Validator Selection: Validators are chosen to produce new blocks based on the number of SOL tokens they have staked. The more tokens staked, the higher the chance of being selected to validate transactions and produce new blocks.

Delegation: Token holders can delegate their SOL tokens to validators, earning rewards proportional to their stake while intended to enhancing the network's security.

Consensus Process

1. Transaction Validation:

Transactions are broadcasted to the network and collected by validators. Each transaction is validated to ensure it meets the network's criteria, such as having correct signatures and sufficient funds.

2. PoH Sequence Generation:

A validator generates a sequence of hashes using PoH, each containing a timestamp and the previous hash. This process creates a historical record of transactions, establishing a

cryptographic clock for the network.

3. Block Production:

The network uses PoS to select a leader validator based on their stake. The leader is responsible for bundling the validated transactions into a block. The leader validator uses the PoH sequence to order transactions within the block, ensuring that all transactions are processed in the correct order.

4. Consensus and Finalization:

Other validators verify the block produced by the leader validator. They check the correctness of the PoH sequence and validate the transactions within the block. Once the block is verified, it is added to the blockchain. Validators sign off on the block, and it is considered finalized.

Security and Economic Incentives

1. Incentives for Validators:

Block Rewards: Validators earn rewards for producing and validating blocks. These rewards are distributed in SOL tokens and are proportional to the validator's stake and performance.

Transaction Fees: Validators also earn transaction fees from the transactions included in the blocks they produce. These fees provide an additional incentive for validators to process transactions efficiently.

2. Security:

Staking: Validators must stake SOL tokens to participate in the consensus process. This staking acts as collateral, incentivizing validators to act honestly. If a validator behaves maliciously or fails to perform, they risk losing their staked tokens.

Delegated Staking: Token holders can delegate their SOL tokens to validators, intended to enhance network security and decentralization. Delegators share in the rewards and are incentivized to choose reliable validators.

3. Economic Penalties:

Slashing: Validators can be penalized for malicious behavior, such as double-signing or producing invalid blocks. This penalty, known as slashing, results in the loss of a portion of the staked tokens, discouraging dishonest actions.

H.5 Incentive mechanisms and applicable fees

Solana uses a combination of Proof of History (PoH) and Proof of Stake (PoS) to secure its network and validate transactions. Here's a detailed explanation of the incentive mechanisms and applicable fees:

Incentive Mechanisms

1. Validators:

Staking Rewards: Validators are chosen based on the number of SOL tokens they have staked. They earn rewards for producing and validating blocks, which are distributed in SOL. The more tokens staked, the higher the chances of being selected to validate transactions and produce new blocks.

Transaction Fees: Validators earn a portion of the transaction fees paid by users for the transactions they include in the blocks. This provides an additional financial incentive for validators to process transactions efficiently and maintain the network's integrity.

2. Delegators:

Delegated Staking: Token holders who do not wish to run a validator node can delegate their SOL tokens to a validator. In return, delegators share in the rewards earned by the validators. This encourages widespread participation in securing the network and ensures decentralization.

3. Economic Security:

Slashing: Validators can be penalized for malicious behavior, such as producing invalid blocks or being frequently offline. This penalty, known as slashing, involves the loss of a portion of their staked tokens. Slashing deters dishonest actions and ensures that validators act in the best interest of the network.

Opportunity Cost: By staking SOL tokens, validators and delegators lock up their tokens, which could otherwise be used or sold. This opportunity cost incentivizes participants to act honestly to earn rewards and avoid penalties.

Fees Applicable on the Solana Blockchain

1. Transaction Fees:

Low and Predictable Fees: Solana is designed to handle a high throughput of transactions, which helps keep fees low and predictable. The average transaction fee on Solana is significantly lower compared to other blockchains like Ethereum.

Fee Structure: Fees are paid in SOL and are used to compensate validators for the resources they expend to process transactions. This includes computational power and network bandwidth.

2.   Rent Fees:

State Storage: Solana charges rent fees for storing data on the blockchain. These fees are designed to discourage inefficient use of state storage and encourage developers to clean up unused state. Rent fees help maintain the efficiency and performance of the network.

3.   Smart Contract Fees:

Execution Costs: Similar to transaction fees, fees for deploying and interacting with smart contracts on Solana are based on the computational resources required. This ensures that users are charged proportionally for the resources they consume.

H.6 Use of distributed ledger technology

No, DLT not operated by the issuer, offeror, a person seeking admission to trading or a third-party acting on the issuer's their behalf.

H.7 DLT functionality description

Not applicable.

H.8 Audit

We can not guarantee that every part of the technology being used to issue and maintain the crypto-asset was audited

H.9 Audit outcome

Not applicable.

Part I – Information on risks

I.1 Offer-related risks

1. Regulatory and Jurisdictional Risks: This white paper has been prepared with utmost caution; however, future changes in regulatory frameworks could potentially impact the token's legal status and its tradability.

Jurisdictional Limitations: Investors are required to ensure that their transactions comply with the laws applicable in their jurisdictions, as the regulatory landscape for crypto-assets varies significantly across different regions.

2. Market and Liquidity Risks:

Volatility: The token will most likely be subject to high volatility and market speculation. Price fluctuations could be significant, posing a risk of substantial losses to holders.

Liquidity Risk: Low trading volumes may restrict the buying and selling capabilities of the tokens. Liquidity of the token can vary. This could result in high slippage when trading a token.

3. Operational and Technical Risks:

Blockchain Dependency: As of now, the token is entirely dependent on the Solana blockchain. Any issues like downtime, congestion, or security vulnerabilities within the Solana network could adversely affect the token's functionality.

Smart Contract Risks: Smart contracts governing the token may contain hidden vulnerabilities or bugs that could disrupt the token offering or distribution processes.

Human errors: Due to the irrevocability of blockchain-transactions, approving wrong transactions or using incorrect networks/addresses will most likely result in funds not being accessibly anymore.

4. Lack of Intrinsic Value: The token does not possess inherent utility, functioning solely as a speculative asset. Its valuation is predominantly influenced by community engagement, speculative activities, and overall market sentiment, which presents considerable challenges to sustaining long-term value stability.

5. Delisting Risks: Bitstamp Eurpe S.A. might remove the token from trading in line with Bitstamp Markets Trading Rules.

I.2 Issuer-related risks

1. Insolvency

As with every other commercial endeavor, the risk of insolvency of the issuer is given. This could be caused by but is not limited to lack of interest from the public, lack of funding, incapacitation of key developers and project members, force majeure (including pandemics and wars) or lack of commercial success or prospects.

2. Counterparty

In order to operate, the issuer has most likely engaged in different business relationships with one or more third parties on which it strongly depends on. Loss or changes in the leadership or key partners of the issuer and/or the respective counterparties can lead to disruptions, loss of trust, or project failure. This could result in a total loss of economic value for the crypto-asset holders.

3. Legal and Regulatory Compliance

Cryptocurrencies and blockchain-based technologies are subject to evolving regulatory landscapes worldwide. Regulations vary across jurisdictions and may be subject to significant changes. Non-compliance can result in investigations, enforcement actions, penalties, fines, sanctions, or the prohibition of the trading of the crypto-asset impacting its viability and market acceptance. This could also result in the issuer to be subject to private litigation. The beforementioned would most likely also lead to changes with respect to trading of the crypto-asset that may negatively impact the value, legality, or functionality of the crypto-asset.

4. Operational

Failure to develop or maintain effective internal control, or any difficulties encountered in the implementation of such controls, or their improvement could harm the issuer's business, causing disruptions, financial losses, or reputational damage.

5. Industry

The issuer is and will be subject to all of the risks and uncertainties associated with a memecoin-project, where the token issued has zero intrinsic value. History has shown that most of this projects resulted in financial losses for the investors and were only set-up to enrich a few insiders with the money from retail investors.

6. Reputational

The issuer faces the risk of negative publicity, whether due to, without limitation, operational failures, security breaches, or association with illicit activities, which can damage the issuer reputation and, by extension, the value and acceptance of the crypto-asset.

7. Competition

There are numerous other crypto-asset projects in the same realm, which could have an effect on the crypto-asset in question.

8. Unanticipated Risk

In addition to the risks included in this section, there might be other risks that cannot be foreseen. Additional risks may also materialize as unanticipated variations or combinations of the risks discussed.

I.3 Crypto-assets-related risks

1. Market Volatility Risks: High Volatility: The value of the token is expected to be highly volatile, influenced by speculation, meme culture trends, and overall market sentiment. Significant price fluctuations could lead to substantial losses for holders.

2. Speculative Nature: The token lacks intrinsic utility or underlying value, functioning solely as a speculative asset. Its valuation is wholly dependent on market demand and community interest.

3. Liquidity Risks: Some crypto-assets suffer from limited liquidity, which can present difficulties when executing large trades without significantly impacting market prices. This lack of liquidity can lead to substantial financial losses.

4. Blockchain Risks: Solana Network Dependency: The token operates exclusively on the Solana blockchain as of now. Issues such as network downtime, congestion, or security vulnerabilities could impair the token's transferability, trading, or overall functionality. Although Solana is known for low transaction fees, network congestion or technical issues could lead to increased costs or delays.

5. Security Risks - Smart Contract Vulnerabilities: The smart contract for the token may contain vulnerabilities or exploits that jeopardize token security or distribution. P

6. Security Risks - Private Key Management: It is critical for holders to secure their wallet private keys and recovery phrases. Losing wallet credentials can result in the irreversible loss of tokens.

7. Scams: The irrevocability of transactions executed using blockchain infrastructure, as well as the pseudonymous nature of blockchain ecosystems, attracts scammers. Therefore, investors in crypto-assets must proceed with a high degree of caution when investing in if they invest in crypto-assets. Typical scams include – but are not limited to – the creation of fake crypto-assets with the same name, phishing on social networks or by email, fake giveaways/airdrops, identity theft, among others.

8. Dependence on Community Interest: The success and market value of the token heavily rely on community support and the popularity of the memecoin narrative. Waning interest or adverse sentiment could drastically reduce its value. Emerging Trends: The memecoin market is susceptible to rapidly evolving trends and narratives. New competing tokens or shifts in market focus could diminish the tokens prominence.

9. Evolving Legal Frameworks: Future changes in regulations or their interpretations could affect the classification, trading availability, or usability of the tokens. Jurisdictional Restrictions: Users in certain areas may encounter legal restrictions or obligations concerning the possession or trading of crypto-assets like the token in question.

10. Technological Obsolescence: The rapid evolution of the crypto-asset landscape means new technologies or platforms could make Solanas or the tokens design less competitive, potentially affecting adoption and value. Participants are advised to

recognize the speculative and volatile nature of the token and be prepared for these risks.

11. Reputational concerns: Crypto-assets are often subject to reputational risks stemming from associations with illegal activities, high-profile security breaches, and technological failures. Such incidents can undermine trust in the broader ecosystem, negatively affecting investor confidence and market value, thereby hindering widespread adoption and acceptance.

12. Taxation: The taxation regime that applies to the trading of the crypto-asset by individual holders or legal entities will depend on the holder's jurisdiction. It is the holder's sole responsibility to comply with all applicable tax laws, including, but not limited to, the reporting and payment of income tax, wealth tax, or similar taxes arising in connection with the appreciation and depreciation of the crypto-asset.

13. Anti-Money Laundering/Counter-Terrorism Financing: It cannot be ruled out that crypto-asset wallet addresses interacting with the crypto-asset have been, or will be used for money laundering or terrorist financing purposes, or are identified with a person known to have committed such offenses.

14. Market Abuse: It is noteworthy that crypto-assets are potentially prone to increased market abuse risks, as the underlying infrastructure could be used to exploit arbitrage opportunities through schemes such as front-running, spoofing, pump-and-dump, and fraud across different systems, platforms, or geographic locations. This is especially true for crypto-assets with a low market capitalization and few trading venues, and potential investors should be aware that this could lead to a total loss of the funds invested in the crypto-asset.

I.4 Project implementation-related risks

As this white paper relates to the "Admission to trading" of the crypto-asset, the implementation risk is referring to the risks on the Crypto Asset Service Providers side. These can be, but are not limited to, typical project management risks, such as key-personal-risks, timeline-risks, and technical implementation-risks.

I.5 Technology-related risks

1. Blockchain Dependency Risks

Solana Network Downtime: Potential outages or congestion on the Solana blockchain could interrupt on-chain token transfers, trading, and other functions.

Scalability Challenges: Despite Solana's comparatively high throughput design, unexpected demand or technical issues might compromise its performance.

2. Smart Contract Risks

Vulnerabilities: The smart contract governing the token could contain bugs or vulnerabilities that may be exploited, affecting token distribution or vesting schedules.

3. Wallet and Storage Risks

Private Key Management: Token holders must securely manage their private keys and recovery phrases to prevent permanent loss of access to their tokens, which includes Trading-Venues, who are a prominent target for dedicated hacks.

Compatibility Issues: The tokens require Solana-compatible wallets for storage and transfer. Any incompatibility or technical issues with these wallets could impact token accessibility.

4. Network Security Risks

Attack Risks: The Solana blockchain may face threats such as denial-of-service (DoS) attacks or exploits targeting its consensus mechanism, which could compromise network integrity.

Centralization Concerns: Although claiming to be decentralized, Solana's relatively smaller number of validators/concentration of stakes within the network compared to other blockchains and the influence of the Solana Foundation (as of 2025-03-09) might pose centralization risks, potentially affecting network resilience.

5. Evolving Technology Risks: Technological Obsolescence: The fast pace of innovation in blockchain technology may make Solana or the SPL token standard appear less

competitive or become outdated, potentially impacting the usability or adoption of the token.

I.6 Mitigation measures

None.

Part J – Information on the sustainability indicators in relation to adverse impact on the climate and other environment-related adverse impacts

J.1 Adverse impacts on climate and other environment-related adverse impacts

S.1 Name

Bitstamp Europe S.A.

S.2 Relevant legal entity identifier

549300XIBGTJ0PLIEO72

S.3 Name of the cryptoasset

Pudgy Penguins

S.4 Consensus Mechanism

Solana uses a combination of Proof of History (PoH) and Proof of Stake (PoS). The core concepts of the mechanism are intended to work as follows:

Core Concepts

1. Proof of History (PoH):

Time-Stamped Transactions: PoH is a cryptographic technique that timestamps transactions, intended to creating a historical record that proves that an event has occurred at a specific moment in time.

Verifiable Delay Function: PoH uses a Verifiable Delay Function (VDF) to generate a unique hash that includes the transaction and the time it was processed. This sequence

of hashes provides a verifiable order of events, intended to enabling the network to efficiently agree on the sequence of transactions.

2. Proof of Stake (PoS):

Validator Selection: Validators are chosen to produce new blocks based on the number of SOL tokens they have staked. The more tokens staked, the higher the chance of being

selected to validate transactions and produce new blocks.

Delegation: Token holders can delegate their SOL tokens to validators, earning rewards proportional to their stake while intended to enhancing the network's security.

Consensus Process

1. Transaction Validation:

Transactions are broadcasted to the network and collected by validators. Each transaction is validated to ensure it meets the network's criteria, such as having correct signatures and sufficient funds.

2. PoH Sequence Generation:

A validator generates a sequence of hashes using PoH, each containing a timestamp and the previous hash. This process creates a historical record of transactions, establishing a

cryptographic clock for the network.

3. Block Production:

The network uses PoS to select a leader validator based on their stake. The leader is responsible for bundling the validated transactions into a block. The leader validator uses the PoH sequence to order transactions within the block, ensuring that all transactions are processed in the correct order.

4. Consensus and Finalization:

Other validators verify the block produced by the leader validator. They check the correctness of the PoH sequence and validate the transactions within the block. Once

the block is verified, it is added to the blockchain. Validators sign off on the block, and it is considered finalized.

Security and Economic Incentives

1. Incentives for Validators:

Block Rewards: Validators earn rewards for producing and validating blocks. These rewards are distributed in SOL tokens and are proportional to the validator's stake and performance.

Transaction Fees: Validators also earn transaction fees from the transactions included in the blocks they produce. These fees provide an additional incentive for validators to process transactions efficiently.

2. Security:

Staking: Validators must stake SOL tokens to participate in the consensus process. This staking acts as collateral, incentivizing validators to act honestly. If a validator behaves maliciously or fails to perform, they risk losing their staked tokens.

Delegated Staking: Token holders can delegate their SOL tokens to validators, intended to enhance network security and decentralization. Delegators share in the rewards and are incentivized to choose reliable validators.

3. Economic Penalties:

Slashing: Validators can be penalized for malicious behavior, such as double-signing or producing invalid blocks. This penalty, known as slashing, results in the loss of a portion of the staked tokens, discouraging dishonest actions.

S.5 Incentive Mechanisms and Applicable Fees

1. Validators:

Staking Rewards: Validators are chosen based on the number of SOL tokens they have staked. They earn rewards for producing and validating blocks, which are distributed in SOL. The more tokens staked, the higher the chances of being selected to validate transactions and produce new blocks.

Transaction Fees: Validators earn a portion of the transaction fees paid by users for the transactions they include in the blocks. This is intended to provide an additional financial incentive for validators to process transactions efficiently and maintain the network's integrity.

2. Delegators:

Delegated Staking: Token holders who do not wish to run a validator node can delegate their SOL tokens to a validator. In return, delegators share the rewards earned by the validators. This is intended to encourage widespread participation in securing the network and ensures decentralization.

3. Economic Security:

Slashing: Validators can be penalized for malicious behavior, such as producing invalid blocks or being frequently offline. This penalty, known as slashing, involves the loss of a portion of their staked tokens. Slashing is intended to deter dishonest actions and ensures that validators act in the best interest of the network.

Opportunity Cost: By staking SOL tokens, validators and delegators lock up their tokens, which could otherwise be used or sold. This opportunity cost is intended to incentivize participants to act honestly to earn rewards and avoid penalties.

Fees Applicable on the Solana Blockchain

1. Transaction Fees:

Solana is designed to handle a high throughput of transactions, which is intended to keep the fees low and predictable.

Fee Structure: Fees are paid in SOL and are used to compensate validators for the resources they expend to process transactions. This includes computational power and network bandwidth.

2. Rent Fees:

State Storage: Solana charges so called ""rent fees"" for storing data on the blockchain. These fees are designed to discourage inefficient use of state storage and encourage

developers to clean up unused state. Rent fees are intended to help maintain the efficiency and performance of the network.

3. Smart Contract Fees:

Execution Costs: Similar to transaction fees, fees for deploying and interacting with smart contracts on Solana are based on the computational resources required. This is intended to ensure that users are charged proportionally for the resources they consume.

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

944.50729 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 Solana 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.

S.10 Renewable energy consumption

27.0081797971 %

S.11 Energy intensity

0.00000 kWh

S.12 Scope 1 DLT GHG emissions – Controlled

0.00000 tCO2e/a

S.13 Scope 2 DLT GHG emissions – Purchased

0.32006 tCO2e/a

S.14 GHG intensity

0.00000 kgCO2e

S.15 Key energy sources and methodologies

To determine the proportion of renewable energy usage, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from Our World in Data, see citation. The intensity is calculated as the marginal energy cost wrt. one more transaction.

Ember (2025); Energy Institute - Statistical Review of World Energy (2024) – with major processing by Our World in Data. "Share of electricity generated by renewables – Ember and Energy Institute" [dataset]. Ember, "Yearly Electricity Data Europe"; Ember, "Yearly Electricity Data"; Energy Institute, "Statistical Review of World Energy" [original data]. Retrieved from https://ourworldindata.org/grapher/share-electricity renewables.

S.16 Key GHG sources and methodologies

To determine the GHG Emissions, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks

are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo- information is merged with public information from Our World in Data, see citation. The intensity is calculated as the marginal emission wrt. one more transaction.

Ember (2025); Energy Institute - Statistical Review of World Energy (2024) – with major processing by Our World in Data. "Carbon intensity of electricity generation – Ember and Energy Institute" [dataset]. Ember, "Yearly Electricity Data Europe"; Ember, "Yearly Electricity Data"; Energy Institute, "Statistical Review of World Energy" [original data]. Retrieved from https://ourworldindata.org/grapher/carbon-intensity electricity Licenced under CC BY 4.0.