NAEST

MiCA-Ready Utility Token Paper

Version 4.70 - 11 March 2025

00 TABLE OF CONTENT

01 DATE OF NOTIFICATION

2025-03-11

COMPLIANCE STATEMENTS

02 This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union. The offeror of the crypto-asset is solely responsible for the content of this crypto-asset white paper.

Where relevant in accordance with Article 6(3), second subparagraph of Regulation (EU) 2023/1114, reference shall be made to 'person seeking admission to trading' or to 'operator of the trading platform' instead of 'offeror'.

03 This crypto-asset white paper complies with Title II of Regulation (EU) 2023/1114 and, to the best of the knowledge of the management body, the information presented in the crypto-asset white paper is fair, clear and not misleading and the crypto-asset white paper makes no omission likely to affect its import.

04 The crypto-asset referred to in this white paper may lose its value in part or in full, may not always be transferable and may not be liquid.

05 The utility token referred to in this white paper may not be exchangeable against the good or service promised in the crypto-asset white paper, especially in the case of a failure or discontinuation of the crypto-asset project.

06 The crypto-asset referred to in this white paper is not covered by the investor compensation schemes under Directive 97/9/EC of the European Parliament and of the Council.

The crypto-asset referred to in this white paper is not covered by the deposit guarantee schemes under Directive 2014/49/EU of the European Parliament and of the Council.

SUMMARY

07 Warning

This summary should be read as an introduction to the crypto-asset white paper. The prospective holder should base any decision to purchase this crypto-asset on the content of the crypto-asset white paper as a whole and not on the summary alone. The offer to the public of this crypto-asset does not constitute an offer or solicitation to purchase financial instruments and any such offer or solicitation can be made only by means of a prospectus or other offer documents pursuant to the applicable national law.

This crypto-asset white paper does not constitute a prospectus as referred to in Regulation (EU) 2017/1129 of the European Parliament and of the Council (36) or any other offer document pursuant to Union or national law.

08 Characteristics of the crypto-asset

NAEST tokens will be natively created on the SOLANA blockchain, which serves as the fundamental infrastructure for NAEST's decentralized ecosystem. It is important to note that NAEST operates as a fixed supply token, meaning that only 10 billion tokens will be created.

This limited token supply is designed to ensure scarcity and value appreciation over time, in line with NAEST's long-term vision of fostering a sustainable and prosperous token economy. By establishing a fixed supply model, NAEST aims to build trust among token holders and subscribers while promoting stability and liquidity within the ecosystem.

In summary, NAEST is designed to potentially increase in value over time due to its deflationary nature and integrated mechanisms that gradually reduce the number of tokens in circulation. The NST token is the central element, the heart of the NAEST ecosystem, designed to revolutionize the world of innovative transport and mobility. This utility token offers much more than just a token; it represents a passport to a decentralized and sustainable universe.

09 Not applicable.

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

The initial token offering (ICO) of NAEST represents a crucial step in our ambition to become a global leader in transport and mobility innovation. This fundraising effort aims to propel the development of our revolutionary ecosystem, combining blockchain, artificial intelligence, and ethical transport.

Our ICO aims to finance the rapid expansion of our network of clients and partners while enabling the launch and continuous improvement of our cutting-edge applications.

The funds raised will be strategically allocated to:

- Obtain the necessary licenses and approvals in our target markets
- Deploy impactful marketing campaigns on an international scale
- Intensify our research and development efforts
- Accelerate the evolution and adaptation of our project to market needs

This approach will allow us to advance simultaneously on multiple fronts, optimizing our market entry. We aim to quickly acquire significant market shares while accelerating the development of our innovative applications and expanding our partner network.

The first phase of our ICO will focus on launching dynamic marketing campaigns and expanding our community. Our goal is to create an active and engaged support group around the NAEST Global project. At the

same time, we will evolve our prototype into a fully functional minimum viable product (MVP) (we plan to launch a beta version of the NAEST Express application by April 2025).

Special emphasis will be placed on regulatory compliance, particularly at the European level, to ensure a smooth and sustainable expansion.

We will also focus on establishing key strategic partnerships in the transport and technology sectors, thereby laying solid foundations for the successful launch of our applications and future growth of NAEST.

Our ICO represents much more than just a fundraising effort. It embodies the birth of a visionary group that merges blockchain and AI technologies with an ethical approach to transport, redefining the future of mobility on a global scale.

Total offer amount	*Quantities of tokens in the 2 public sales stages = 13.50 % of total supply*
Total number of tokens to be offered to the public	*1.350.000.000 tokens*
Subscription period	***ICO Public Sale Stage #1 (8,50% = 850.000.000 tokens)*** *Dates: April 7, 2025 – May 11, 2025* ***ICO Public Sale Stage #2 (5% = 500.000.000 tokens)*** *Dates: May 12, 2025 – June 15, 2025*
Minimum and maximum subscription amount	*Not applicable*
Issue price	*Token price during ICO Public Sale Stage #1 = €0.003* *Token price during ICO Public Sale Stage #2 = €0.004*
Subscription fees (if any)	*Solana Network fees*
Target holders of tokens	*Retail and professional investors*
Description of offer phases	*ICO Public Sale Stage #1* *ICO Public Sale Stage #2*
CASP responsible for placing the token (if any)	*Not applicable*
Form of placement	*Not applicable*
Admission to trading	*The Offeror is not seeking admission to trading of the NAEST Token*

PART I – INFORMATION ON RISKS

NAEST based in Paris (France), the issuer of this ICO operation, commits to act in an honest, loyal, and professional manner, and the NAEST team pledges to provide the best possible experience to its users. However, we would like to specify that we cannot be held responsible for direct or indirect losses related to the use of our tokens.

This whitepaper reflects our current vision and plans, but it does not constitute a contractual commitment. NAEST reserves the right to adjust its strategy based on market developments and regulations.

Without constituting contractual advice, it is recommended that any buyer consult legal and tax advisors regarding implications from purchasing NAEST tokens or exchanging them with other digital assets or legal tender based on nationality and residence.

Subscribe in a public token offering carries risks of partial or total loss of subscription. No guarantees are provided regarding:

- *The liquidity of the tokens acquired during the offering*
- *The existence of a secondary market for these tokens*
- *The value of the tokens acquired during the offering*
- *The equivalent value of these tokens in currency.*

I.1 Offer-Related Risks

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.'

Before participating in NAEST's ICO, we strongly encourage you to familiarize yourself with the regulations governing digital assets in your country of residence. This step is essential to ensure your legal compliance and the security of your subscription.

It is crucial to understand that the value and utility of tokens may fluctuate depending on market conditions and technological advancements. Although we have meticulously verified all the information presented, we invite you to exercise caution. The projections and forward-looking statements contained in this document are based on our best estimates but do not constitute guarantees.

By participating in this ICO, you are joining a community of visionaries sharing our vision of a decentralized future of transport and mobility. We recommend consulting qualified professionals for legal, financial, and tax advice tailored to your personal situation.

I.2 Issuer-Related Risks

The NAEST company has conducted a review of the risks that could have a significant adverse effect on its business, project, and the tokens it plans to issue. These risks have been classified according to their nature.

***Operational, Financial and Legal Risks**: These include risks related to NAEST's internal processes, personnel, and technologies, which can affect their ability to manage NAEST Token operations effectively. Failures in operational integrity might lead to disruptions, financial losses, or reputational damage. NAEST faces financial risks, including liquidity, credit, and market risks. These could affect NAEST's ability to continue operations, meet obligations, or sustain the stability or value of the NAEST token. Legal uncertainties, potential lawsuits, or adverse legal rulings can pose significant risks to NAEST. Legal challenges may affect the legality, usability, or value of the NAEST token.*

***Risk of Failure in Launching or Developing Technical and Operational Aspects of Project**: The technological risk associated with developing the platform appears low. However, difficulty in generating adoption despite having a functional interface is a risk that holders must consider.*

***Risk of Substantial Modification to Project and Rights Attached to Tokens**: The issuer does not plan short-term changes regarding functionalities related to using NAEST tokens via its platform. However, this possibility cannot be excluded due to developments concerning its accelerator and Foundation.*

***Risk Related to Lack of Regular Communication from Issuer Regarding Project or Events Impacting Project**: For information purposes, the issuer will maintain regular communication with NST token holders through multiple channels (newsletter, Twitter, Telegram, LinkedIn). The risk related to lack of regular communication from issuer about project developments is considered low.*

***Risks Related to Lack of Clarity on Applicable Regulations for Token Offering Across Jurisdictions**: The taxation and accounting rules surrounding offering, sale, or donation of NAEST tokens are governed by current French law as per this Information Document date. No assurance can be provided regarding consequences from potential judicial or administrative decisions or changes in legislation affecting this Information Document's date. Such decisions could negatively impact both subscribers and value of NAEST tokens. Furthermore, issuer excludes any liability regarding adoption by European Union legislation harmonizing legal qualification for digital assets which could affect current qualification for NAEST Tokens and attached rights.*

***Risks Related to Conflicts of Interest**: NAEST is not aware of any discrepancies between its own interests, those of its partners, and those of subscribers to the NAEST token offer. No NAEST tokens have been created prior to the start of Private Sale of this offer (ICO), and NAEST does not intend to participate in the public offer of tokens as referred to in this Information Document.*

***Risks Related to Fraud, Mismanagement and Reputation**: There is a risk of fraudulent activity or mismanagement by NAEST, which can lead to directly impacting the usability or value of the NAEST token or damage the credibility of the project. Negative publicity, whether due to operational failures, security breaches, or association with illicit activities, can damage NAEST's reputation and, by extension, the value and acceptance of the NAEST token.*

***Risks Related to Technology Management**: Inadequate management of technological updates or failure to keep pace with technological advancements can render NAEST tokens, or the project it is connected to, obsolete or vulnerable to security risks.*

***Risks Related to Dependency on Key Individuals and Counterparty**: The success of NAEST project can be highly dependent on the expertise and leadership of key individuals. Loss or changes in the project's leadership can lead to disruptions, loss of trust, or project failure. The NAEST's partners, suppliers, or collaborators, including the potential for non-fulfillment of obligations can affect NAEST's operations.*

***Risks Related to Pandemics or Economic Crises**: As of now, impacts from pandemics or economic crises on issuer and ICO operations can be considered negligible or minor. However, if there were declarations related to health crises due to pandemics or economic crises requiring significant mobilization from issuer... developments related to NAEST application/platform as well as valuation for NAEST token could be negatively impacted. Indeed, measures taken by various governments against such pandemics/crises*

remain uncertain; thus issuer remains vigilant regarding potential negative consequences on user adoption towards platform which could affect short-term business model for NAEST company.

I.3 Crypto-Assets-Related Risks

Risk of Partial or Total Loss of Holding*: Despite NAEST's efforts to generate interest in the NST token, its price fluctuates continuously and could decrease significantly. In such a scenario, holders could lose all or part of their subscription. Holders should not subscribe in NST tokens if they are unable to bear the consequences of such a loss.*

Currency Risk, particularly against the euro or any foreign currency, borne by the holder*: If NST tokens are traded on digital asset exchanges, the value of the NAEST token in euros will directly depend on the supply and demand for NAEST at any given moment. Should interest in services associated with NAEST decline, the price of the NAEST token in euros—and by extension in any other currency—could drop significantly. Moreover, during this period, the price of NAEST tokens in euros and in any other currency could decrease significantly, leaving holders exposed to fluctuation risk without the ability to request reimbursement of their NAEST tokens.*

Smart Contract Risk*: NAEST tokens might be connected to or be issued with the help of smart contracts. Smart contracts are code running on a blockchain, executing the programmed functions automatically if the defined conditions are fulfilled. Bugs or vulnerabilities in smart contract code can expose blockchain users to potential hacks and exploits. Any flaw in the code can lead to unintended consequences, such as the loss of crypto-assets or unauthorized access to sensitive data.*

Risk Related to Token Valuation*: The value of the NAEST token depends on supply and demand, which is influenced by the level of adoption of the NAEST platform. A lack of adoption could negatively impact the valuation of NAEST tokens. Additionally, in the event of restructuring, liquidation, or dissolution of the issuer (SAS NAEST), NAEST tokens could lose all their value.*

Risk of Lack of Liquidity for Tokens*: As the NAEST token is currently not tradable on a trading or exchange platform for digital assets, liquidity risk applies. Furthermore, if the NST token is listed on such a platform, the ability to sell a large quantity of NAEST tokens within a short time frame will depend on the liquidity available in secondary markets for NAEST tokens. However, if interest in services associated with the NAEST token diminishes, liquidity, trading volumes, or exchange value against other digital assets or legal tender could be negatively impacted.*

Risk Related to Absence of a Secondary Market for NAEST Tokens*: The NAEST token is intended to be listed on a secondary market. However, success in these endeavors undertaken by the issuer or one of its affiliates is not guaranteed. Moreover, if listed on a secondary market, that market may decide to delist the NAEST token, which would consequently reduce its liquidity.*

Risk Related to Exchanges*: The companies and platforms where NAEST tokens may eventually be listed provide or could provide one or more services related to digital assets as listed in Article L. 54-10-2 of the Monetary and Financial Code. Therefore, it cannot be excluded that these companies and their digital asset trading platform must undergo mandatory registration with the AMF and that they may not meet registration conditions. The holder may need to ensure compliance with these conditions when using these platforms.*

I.4 Project Implementation-Related Risks

NAEST token holders are responsible for how they use their tokens. Payment for purchasing or selling tokens incurs their responsibility. NAEST company disclaims any liability if tokens are used for purchasing or selling products prohibited by law.

I.5 Technology-Related Risks

NAEST tokens will be natively created on the SOLANA blockchain, which serves as the fundamental infrastructure for NAEST's decentralized ecosystem. It is important to note that NAEST operates as a fixed supply token, meaning that only 10 billion tokens will be created.

***Risk of Errors or Security Breaches Allowing Hacking or Theft of Issuer Data**: The smart contracts used in this offering will all be audited by a third-party company to ensure no vulnerabilities are detected. The issuer has taken all reasonable cybersecurity measures to protect against known attacks that could disrupt the NAEST platform. However, the issuer disclaims any responsibility for malfunctions or unexpected operations related to Solana blockchain or another blockchain, loss of tokens by buyers, hacking incidents, or any situation preventing holders from accessing their tokens.*

***Risk of Loss or Theft of Subscriber's Private Key Support**: A private key is similar to a unique password that validates requests for transferring one or more tokens on Solana blockchain or another blockchain. Any third party accessing the holders private key or private key management system (referred to as "wallet") can steal funds and tokens stored there. In case of loss of the private key, funds and tokens held will be permanently lost. It should be noted that the issuer does not possess holders's private keys and under no circumstances should a private key be shared with a third party. Therefore, it is each subscriber's responsibility to securely keep their private key. Holders are encouraged to use recognized and audited open-source wallets to securely manage their private keys.*

***Risks Related to Functional Scope of Solana or Ethereum Contracts**: The computer code of a contract deployed on a blockchain is generally not modifiable. However, it may be necessary during a contract's lifecycle to evolve its functional scope. This includes adding features or security patches (e.g., a security flaw that was not detected during auditing work requiring modification of Solana contract code). If there were changes to the functional scope of contracts, a new version may need to be deployed. This possibility for updates reduces functional limitations inherent in blockchain contract immutability. Any updates to Solana or Ethereum contracts will undergo security audits.*

***Risk of Internet Fraud and Identity Theft of Issuer**: There is a risk that criminals may attempt to defraud subscribers through fake accounts on social media that replicate the issuer's visual identity. Therefore, subscribers should only use official communication channels from the Issuer as listed in the "Contact Information" on https://linktr.ee/naest.eu*

***Risks Related to Settlement and Transaction Finality**: By design, Solana's settlement is probabilistic, meaning there is no absolute guaranteed finality for a transaction. There remains a theoretical risk that a transaction could be reversed or concurring versions of the ledger could persist due to exceptional circumstances such as forks or consensus errors. The risk diminishes as more blocks are added, making it increasingly secure over time. Under normal circumstance, however, once a transaction is confirmed, it cannot be reversed or cancelled. NAEST tokens sent to a wrong address cannot be retrieved, resulting in the loss of the sent NAEST tokens.*

***Risks Related to Scaling Limitations and Transaction Fees**: As the number of users and transactions grows, Solana's network may face scaling challenges. This could lead to increased transaction fees and slower transaction processing times, affecting usability and costs.*

***Risks Related to Economic Self-sufficiency and Operational Parameters**: Solana's network might not reach the critical mass in transaction volume necessary to sustain self-sufficiency and remain economically viable to incentivize block production. In failing to achieve such inflection point, Solana might lose its relevance, become insecure, or result in changes to the protocol's operational parameters, such as the monetary policy, fee structure and consensus rewards, governance model, or technical specifications such as block size or intervals.*

***Risks Related to Network Attacks and Cyber Security Risks**: The Solana networks can be vulnerable to a variety of cyber-attacks, including 51% attacks, where an attacker gains control of the majority of the network's consensus, Sybil attacks, or DDoS attacks. These can disrupt the network's operations and compromise data integrity, affecting its security and reliability.*

***Risks Related to Consensus Failures or Forks**: Faults in the consensus mechanism can lead to forks, where multiple versions of the ledger coexist, or network halts, potentially destabilizing the network and reducing trust among participants.*

***Risks Related to Bugs in the Solana's Core Code**: Even with thorough testing, there is always a risk that unknown bugs may exist in a blockchain protocol, which could be exploited to disrupt network operations or manipulate account balances. Continuous code review, audit trails, and having a bug bounty program are essential to identify and rectify such vulnerabilities promptly.*

***Risks Related to Smart Contract Security Risk**: Smart contracts are code running on Solana, executing the programmed functions automatically if the defined conditions are fulfilled. Bugs or vulnerabilities in smart contract code can expose blockchain networks to potential hacks and exploits. Any flaw in the code can lead to unintended consequences, such as the loss of NAEST tokens or unauthorized access to sensitive data.*

***Risks Related to Dependency on Underlying Technology**: Solana, as a Blockchain technology, relies on underlying infrastructures, such as specific hardware or network connectivity, which may themselves be vulnerable to attacks, outages, or other interferences.*

***Risks Related to Risk of Technological Disruption**: Technological advancements or the emergence of new technology could impact blockchain systems, or components used in it, by making them insecure or obsolete (e.g. quantum computing breaking encryption paradigms). This could lead to theft or loss of NAEST tokens or compromise data integrity on the network.*

***Risks Related to Governance Risk**: Governance in Solana technology encompasses the mechanisms for making decisions about network changes and protocol upgrades. Faulty governance models can lead to ineffective decision-making, slow responses to issues, and potential network forks, undermining stability and integrity. Moreover, there is a risk of disproportionate influence by a group of stakeholders, leading to centralized power and decisions that may not align with the broader public's interests.*

***Risks Related to Anonymity and Privacy Risk**: The inherent transparency and immutability of blockchain technology can pose risks to user anonymity and privacy. Since all transactions are recorded on a public ledger, there is potential for sensitive data to be exposed. The possibility for the public to link certain transactions to a specific address might expose it to phishing attacks, fraud, or other malicious activities.*

***Risks Related to Data Corruption**: Corruption of Solana blockchain data, whether through software bugs, human error, or malicious tampering, can undermine the reliability and accuracy of the system.*

***Risks Related to Third-Party**: NAEST token often rely on third-party services such as exchanges and wallet providers for trading and storage. These platforms can be susceptible to security breaches, operational failures, and regulatory non-compliance, which can lead to the loss or theft of NAEST tokens.*

I.6 Mitigation Measures

Risks Related to Non-Blockchain Applications: The term "non-blockchain applications" (or "off-chain" or "web2") refers to applications other than those deployed on Solana blockchain. This offering requires both blockchain applications and non-blockchain applications (e.g., web server hosting the subscription page). If an attacker were able to compromise the subscription page without the knowledge of either the issuer or holders,... funds intended for subscribing to NAEST could be redirected to one or more Solana addresses controlled by the hacker, resulting in irreversible loss of holders' crypto-assets.

To mitigate this risk, the Issuer has implemented security measures listed below:

- *Strong authentication mechanism using SSH keys*
- *Protection against DDoS attacks*
- *Real-time monitoring of server health status and alerts*
- *Up-to-date antivirus*
- *Mechanisms for detecting and blocking intrusion attempts*
- *Updated operating systems and software*
- *Daily backups of databases on an additional server.*

However, any successful attack poses a risk for NAEST token holders regarding partial or total loss of their funds.

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

A.1 Name

NAEST

A.2 Legal Form

SAS (Société par Actions Simplifiée) – Share Capital: €60.000

A.3 Registered Address

78 Avenue des Champs-Élysées, 75008 Paris - FRANCE.

A.4 Head Office

78 Avenue des Champs-Élysées, 75008 Paris - FRANCE

A.5 Registration Date

2024-03-21

A.6 Legal Entity Identifier

Not applicable

A.7 Another Identifier Required Pursuant to Applicable National Law

981 388 655 R.C.S. Paris - FRANCE

A.8 Contact Telephone Number

+33617517544

A.9 E-mail Address

invest@naest.eu

A.10 Response Time (Days)

1 Day

A.11 Parent Company

Not applicable

A.12 Members of the Management Body

Full Name	Business Address	Function
Salim KHANNOUSSI	*78 avenue des Champs-Élysées 75008 Paris - FRANCE*	*Cofounder & CEO*

A.13 Business Activity

Activity: transport manager and freight forwarder. Connecting transport actors through an electronic system (application, website). Transportation of goods, moving services, or vehicle rentals with drivers for goods transport using vehicles exceeding 3.5 tons.

Market served 2025: France, North Africa / Market served 2026: Europe and Asia

The NAEST Group positions itself as an innovative player in the field of smart mobility, offering a comprehensive technological platform that revolutionizes urban and interurban travel.

Our company offers a diverse range of services, from package and goods transportation (NAEST Express), passenger transport (NAEST Car), to grocery and meal delivery services (NAEST Food), all accessible through an intuitive mobile application.

At the heart of our mission is the desire to create a flexible and dynamic mobility ecosystem, offering economic opportunities to drivers, delivery personnel, vehicle owners, and logistics partners.

We are committed to promoting employment and entrepreneurship in the transport sector while meeting the evolving needs of consumers in terms of mobility and delivery.

Decentralization is also at the core of our vision, as evidenced by several aspects of our ecosystem such as the NAEST Token (NAEST), a central utility token, which plays a key role in this decentralized approach. It offers its holders (customers and partners) not only advantages in terms of transactions and investments but also rewards and active participation in the platform's governance. This direct involvement of users in decision-making illustrates NAEST's commitment to a more democratic and distributed structure.

Thus, the future NAEST Foundation represents another facet of this decentralization. We plan to share governance with the community, allowing token holders to participate in decisions through a decentralized voting system. This approach aims to align the interests of the company with those of its community.

The project of a dedicated platform for ICOs for innovative startups also reinforces this decentralized vision. By facilitating the financing of projects with positive impact via blockchain, NAEST seeks to democratize access to investments and support innovation in a distributed manner. This multifaceted approach to decentralization demonstrates NAEST's commitment to creating a more open, transparent, and participatory financial ecosystem.

The ultimate goal of the NAEST Group is to shape the future of urban mobility. We aspire to create smoother, safer, and more enjoyable travel and delivery experiences while positively contributing to society. Our vision is of an inclusive and sustainable transport ecosystem that improves the quality of life in cities and contributes to building a greener and more connected future for all.

A.14 Parent Company Business Activity

Not applicable

A.15 Newly Established

Yes

A.16 Financial Condition for the past three Years

Over the past 3 years, we have primarily focused on developing our NAEST transport application, which will be in production in April 2025.

In 2024-2025, we worked on preparing our ICO and the marketing plan for our first two years of operation (2025-2026).

A.17 Financial Condition Since Registration

We have spent (self-financed) over €900,000 over these past 3 years.

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

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

No

B.2 Name

Not applicable

B.3 Legal Form

Not applicable

B.4 Registered Address

Not applicable

B.5 Head Office

Not applicable

B.6 Registration Date

Not applicable

B.7 Legal Entity Identifier

Not applicable

B.8 Another Identifier Required Pursuant to Applicable National Law

Not applicable

B.9 Parent Company

Not applicable

B.10 Members of the Management Body

Full Name	Business Address	Function
Not applicable		

B.11 Business Activity

Not applicable

B.12 Parent Company Business Activity

Not applicable

C. PART C - INFORMATION ABOUT THE OPERATOR OF THE TRADING PLATFORM IN CASES WHERE IT DRAWS UP THE CRYPTO-ASSET WHITE PAPER AND INFORMATION ABOUT OTHER PERSONS DRAWING THE CRYPTO-ASSET WHITE PAPER PURSUANT TO ARTICLE 6(1), SECOND SUBPARAGRAPH, OF REGULATION (EU) 2023/1114

C.1 Name

Not applicable

C.2 Legal Form

Not applicable

C.3 Registered Address

Not applicable

C.4 Head Office

Not applicable

Registration Date

Not applicable

C.5 Legal Entity Identifier

Not applicable

C.6 Another Identifier Required Pursuant to Applicable National Law

Not applicable

C.7 Parent Company

Not applicable

C.8 Reason for Crypto-Asset White Paper Preparation

Not applicable

C.9 Members of the Management Body

Full Name	Business Address	Function
Not applicable		

C.10 Operator Business Activity

Not applicable

C.11 Parent Company Business Activity

Not applicable

C.12 Other persons drawing up the white paper under Article 6 (1) second subparagraph MiCA

Not applicable

C.13 Reason for drawing up the white paper under Article 6 (1) second subparagraph MiCA

Not applicable

D. PART D - INFORMATION ABOUT THE CRYPTO-ASSET PROJECT

D.1 Crypto-Asset Project Name

NAEST

D.2 Crypto-Assets Name

NAEST

D.3 Abbreviation

NAEST

D.4 Crypto-Asset Project Description

In summary, NAEST is designed to potentially increase in value over time due to its deflationary nature and integrated mechanisms that gradually reduce the number of tokens in circulation. The NST token is the central element, the heart of the NAEST ecosystem, designed to revolutionize the world of innovative transport and mobility. This utility token offers much more than just a token; it represents a passport to a decentralized and sustainable universe.

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

Full Name	Business Address	Function
Salim KHANNOUSSI	78, Avenue des Champs-Élysées 75008 Paris, France	Cofounder & CEO
Omar BEN SALEM	Rue el may, Khnennsa Ajim Djerba 4135, Tunisie	Cofounder & COO
Laurent LELOUP	5, avenue Charles Siffert, 25000 Besançon, France	Cofounder & CIO
Thibault VERBIEST	2 Rue de Poissy, 75005 Paris, France	Legal Advisor
Hamouda ALIAS	3 rue de Tyr passage Conf. megrine chaker ben aromrous, Tunisie	IT Consultant
Pierre LELOUP	128 Avenue Thiers, 69006 Lyon, France	Marketing Manager
Omar MECHI	78, Avenue des Champs-Élysées 75008 Paris, France	Graphist Designer
Arnaud BROLLY	80 joo chiat walk, 427139 Singapore	Asia Advisor
Sylvain DRUAIS	10 rue de Solférino, Toulouse 31500, France	Tokenomics Consultant
Pascal DUVAL	67 rue du faubourg St-Denis 75010 Paris	Tokenomics Consultant
Lionel KLEIN	19 Rue Mirabeau 94300 Vincennes, France	Cybersecurity Advisor
Sergey KONONYKHIN	160 Impasse Napoléon, 06160, Juan Les Pins, France	Airdrop Advisor
Mehdi LABBANI	1, avenue Maréchal Juin 92150 Suresnes, France	Algeria Advisor
Olayimika Jibril OYEBANJI	20, Daramola Street, Agodi Gate, Ibadan, Oyo State, Nigeria	Nigeria Advisor
Jean-Jacques QUISQUATER	Avenue des Canards, 3, B-1640 Rhode-Saint- Genèse, Belgique	Crypto Advisor

D.6 Utility Token Classification

Yes

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

Utility and vision of the NAEST token:

- *Cost optimization: reduction of transaction fees.*
- *Personalized reward programs: tailored incentives for users.*

- *Access to exclusive benefits: unique opportunities for holders.*
- *Active participation in governance: involvement in platform decision-making.*
- *Participatory governance of the NAEST foundation: possibility to involve holders in decentralized governance.*
- *Community engagement: promoting a sustainable and ethical economic model.*
- *Progressive unlocking of benefits: based on the number of tokens held.*
- *Transaction facilitator: integration within the platform to reduce costs and streamline operations.*
- *Long-term vision: a deflationary model ensuring scarcity and progressive valorization of NAEST.*
- *Priority access to future NAEST initiatives: early involvement in new projects and innovations.*
- *Extended utility: internal means of payment within the NAEST ecosystem while maintaining a key role in governance and access to exclusive benefits.*

D.8 Plans for the Token

Over the past 3 years, we have primarily focused on developing our NAEST transport application, which will be in production in April 2025.

In 2024-2025, we worked on preparing our ICO (tokenomics) and the marketing plan for our first two years of operation (2025-2026).

March 2025: gamification and token utilities design

April 2025: launching of the NAEST app and also our new markets (France, Tunisia, Morocco, Algeria)

June 2025: incorporation of NAEST token in the app

July 2025: launching NAEST Car on our markets

October 2026: launching NAEST Food on our markets (France and North Africa)

2027-2030: commercial developments in Africa, Asia and North America

D.9 Resource Allocation

16 persons

D.10 Planned Use of Collected Funds or Crypto-Assets

€300k already raised in private sale

E. PART E - INFORMATION ABOUT THE OFFER TO THE PUBLIC OF CRYPTO-ASSETS OR THEIR ADMISSION TO TRADING

E.1 Public Offering or Admission to Trading

OTPC - offer to the public

E.2 Reasons for Public Offer or Admission to Trading

Not applicable

E.3 Fundraising Target

€4.550.000 For ICO Public Sales #1 & #2

E.4 Minimum Subscription Goals

€100

E.5 Maximum Subscription Goal

€10.000

E.6 Oversubscription Acceptance

No

E.7 Oversubscription Allocation

Not applicable

E.8 Issue Price

€0.0050

E.9 Official Currency or Any Other Crypto-Assets Determining the Issue Price

€ - Euro

E.10 Subscription Fee

Not applicable

E.11 Offer Price Determination Method

See our tokenomics on www.naest.io

E.12 Total Number of Offered/Traded Crypto-Assets

1.350.000.000

E.13 Targeted Holders

ALL – all types of investors

E.14 Holder Restrictions

Not applicable

E.15 Reimbursement Notice

Purchasers participating in the offer to the public of crypto-assets will be able to be reimbursed if the minimum target subscription goal is not reached at the end of the offer to the public, if they exercise the right to withdrawal foreseen in Article 13 of Regulation (EU) 2023/1114 or if the offer is cancelled.

E.16 Refund Mechanism

Enquiries on invest@naest.eu and refund by smart contract

E.17 Refund Timeline

NAEST project allows refunds within 60 days after the end of the public sales if the project fails before the end of the public sales

E.18 Offer Phases

- *ICO Public Sale Stage #1 (8,50% = 8.500.000.000 tokens)*

Dates: April 7, 2025 – May 11, 2025

- *ICO Public Sale Stage #2 (5% = 5.000.000.000 tokens)*

Dates: May 12, 2025 – June 15, 2025

E.19 Early Purchase Discount

Not applicable

E.20 Time-Limited Offer

Yes

E.21 Subscription Period Beginning

2025-04-07

E.22 Subscription Period End

2025-06-15

E.23 Safeguarding Arrangements for Offered Funds/Crypto-Assets

NAEST implements specific mechanisms to protect funds received from investors. This includes depositing funds in a separate bank account and in wallets dedicated to the ICO operation during the time-limited offer to the public.

E.24 Payment Methods for Crypto-Asset Purchase

- *Debit/Credit card (€ - Euro)*
- *Crypto payment (SOL- Solana)*
- *Stablecoin (USDT, USDC)*
- *Wire transfer (€ -Euro)*

E.25 Value Transfer Methods for Reimbursement

Wire transfer (€ -Euro)

E.26 Right of Withdrawal

Retail holders who purchase NAEST Token have the right to withdraw from their agreement to purchase NAEST Token without incurring any fees or costs and without having to give any reasons. The withdrawal period is 7 calendar days from the date of the agreement. If a retail holder exercises its right to withdraw from the purchase agreement, it shall send a notice by email to the following address: invest@naest.eu . The notice must be sent before midnight (UTC Zone) of the 7th day after the date of the agreement. The right of withdrawal may not be exercised after (i) the end of the Subscription Period, or (ii) the admission of NAEST Token to trading.

If the right of withdrawal is exercised, the Offeror will return to the retail holder all payments received, including any fees, within 14 days of receipt of the notice of withdrawal.

E.27 Transfer of Purchased Crypto-Assets

With smart contracts after the end of ICO Public Sale #2

E.28 Transfer Time Schedule

Within 30 days after the end of ICO Public Sale #2

E.29 Purchaser's Technical Requirements

Subscription to the offer is accessible on ICO page that will be communicated at the time of the launch of each sale. Details on: www.naest.io

To subscribe to the private or public offer of NAEST tokens, a subscriber must meet one of the following conditions:

Possess a compatible Solana wallet*: The subscriber must have a digital wallet that supports Solana tokens. Popular options include Phantom, Solflare, or Sollet. When subscribing to the offer, if the subscriber does not already have a Solana wallet, they will be offered to create one. The subscriber has full freedom regarding the method used to create a Solana wallet and may choose not to follow the method proposed by the Issuer.*

Possess SOL tokens*: The subscriber will need SOL tokens (the native cryptocurrency of Solana) to pay transaction fees and potentially to purchase new tokens from the ICO.*

Hold USDT, or USDC in their wallet*: USDT or USDC are the only types of digital assets accepted for subscribing to tokens. When subscribing to the offer, if the subscriber does not already possess USDT or USDC, they will be offered assistance in acquiring them. The subscriber has full freedom regarding how they acquire these tokens and may choose not to follow the method proposed by the Issuer.*

Other subscription methods*: If the subscriber prefers to subscribe through other means, they will also be offered options such as SEPA transfer or credit card payment.*

Note: In the absence of a minimum threshold, no request for reimbursement of transferred USDT, USDC, (or amounts paid via SEPA transfer or credit card) will be accepted.

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

Not applicable

E.31 CASP identifier

Not applicable

E.32 Placement Form

Whit

E.33 Trading Platforms name

Not applicable

E.34 Trading Platforms Market Identifier Code (MIC)

Not applicable

E.35 Trading Platforms Access

Not applicable

E.36 Involved Costs

Not applicable

E.37 Offer Expenses

€ - Euro

E.38 Conflicts of Interest

Not applicable

E.39 Applicable Law

The offer to the public of NAEST tokens shall be governed by and interpreted in accordance with the laws of France.

E.40 Competent Court

Any dispute with the offer to the public of NAEST tokens shall be brought exclusively in the Commercial courts of Paris, France except where prohibited by Applicable Laws.

F. PART F - INFORMATION ABOUT THE CRYPTO-ASSETS

F.1 Crypto-Asset Type

Utility token

F.2 Crypto-Asset Functionality

- *Cost optimization: reduction of transaction fees.*
- *Personalized reward programs: tailored incentives for users.*
- *Access to exclusive benefits: unique opportunities for holders.*
- *Active participation in governance: involvement in platform decision-making.*
- *Participatory governance of the NAEST foundation: possibility to involve holders in decentralized governance.*
- *Community engagement: promoting a sustainable and ethical economic model.*
- *Progressive unlocking of benefits: based on the number of tokens held.*
- *Transaction facilitator: integration within the platform to reduce costs and streamline operations.*
- *Long-term vision: a deflationary model ensuring scarcity and progressive valorization of NAEST.*
- *Priority access to future NAEST initiatives: early involvement in new projects and innovations.*
- *Extended utility: internal means of payment within the NAEST ecosystem while maintaining a key role in governance and access to exclusive benefits.*

F.3 Planned Application of Functionalities

All functionalities will be delivered during 2025.

F.4 Type of white paper

OTHR

F.5 The type of submission

NEWT = New

F.6 Crypto-Asset Characteristics

Utility Token

F.7 Commercial name or trading name

NAEST

F.8 Website of the issuer

www.naest.io

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

2025-04-07

F.10 Publication date

2025-04-04

F.11 Any other services provided by the issuer

Not applicable

F.12 Identifier of operator of the trading platform

Not applicable

F.13 Language or languages of the white paper

English

F.14 Digital Token Identifier Code used to uniquely identify the crypto-asset or each of the several crypto assets to which the white paper relates, where available

Not applicable

F.15 Functionally Fungible Group Digital Token Identifier, where available

Not applicable

F.16 Voluntary data flag

Mandatory

F.17 Personal data flag

No

F.18 LEI eligibility

Not eligible

F.19 Home Member State

France

F.20 Host Member States

- *Austria*
- *Belgium*
- *France*
- *Germany*
- *Italy*
- *Liechtenstein*
- *Luxembourg*
- *Malta*
- *Netherlands*
- *Portugal*
- *Spain*

G. PART G - INFORMATION ON THE RIGHTS AND OBLIGATIONS ATTACHED TO THE CRYPTO-ASSETS

G.1 Purchaser Rights and Obligations

All issued tokens are fungible and confer equal rights upon their holders. Additionally, subscribers understand, acknowledge, and accept that purchasing NAEST tokens does not grant ownership of shares

or equity in NAEST or its affiliated companies; nor does it confer shareholder status or rights to profit sharing, participation in ordinary or extraordinary general meetings, or any equivalent rights; nor any rights over intellectual or industrial property held by NAEST or its affiliated companies.

The issued tokens do not impose any specific obligations on their holders and it should be noted that issued tokens are divisible up to ninth decimal places.

Crypto-asset holders have the right to own, transfer, and exchange these assets in accordance with the conditions outlined in the white paper. They are also obligated to comply with applicable regulatory requirements, particularly those related to anti-money laundering (AML) and counter-terrorism financing (CTF).

G.2 Exercise of Rights and Obligation

The rights attached to crypto-assets can be exercised through the issuer's platform or authorized crypto-asset service providers. Holders must follow identity verification and security procedures established by the issuer or service provider.

For a complaint NAEST offers a first contact on the address: invest@naest.eu

G.3 Conditions for Modifications of Rights and Obligations

The rights and obligations linked to crypto-assets may be modified in accordance with the procedures described in the white paper.

Any significant modification must be communicated to holders and may require approval from competent authorities, in compliance with MiCA regulations.

G.4 Future Public Offers

Not applicable

G.5 Issuer Retained Crypto-Assets

The total supply (100%) is 10,000,000,000 NAEST (NAEST Tokens).

Here is the allocation of NAEST Tokens:

***Sales (21.50%):** These funds allow NAEST to raise the necessary capital for project development while ensuring a wide initial distribution of tokens (Private Sale 8%, Public Sales 13,50%).*

***Founders & Teams (10%):** Incentives for the team to develop the project long-term. This allocation is subject to a lock-up period (see vesting in our Token Metrics Audit Report) to align interests with investors.*

***Advisors & Influencers (1%):** Compensation for experts and influencers who contribute their expertise and networks. This helps enhance the project's credibility and visibility.*

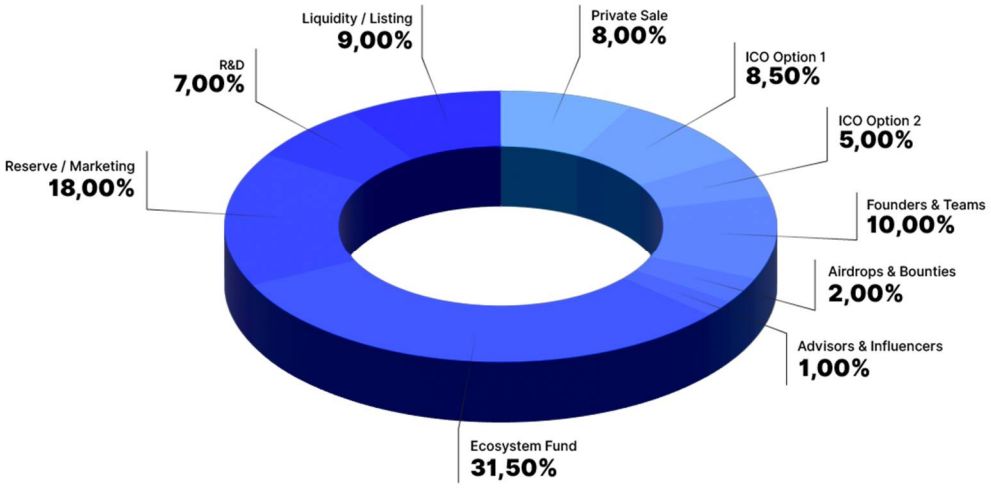
***Airdrops & Bounties (2%):** Allocation that rewards early adopters and creates an engaged community around the project.*

***Ecosystem Fund (31.50%):** This significant allocation encourages active community participation in the development and promotion of the project and the establishment of strategic partnerships.*

***Reserve / Marketing (18%):** Provides financial flexibility for future opportunities and unforeseen events and finances promotional efforts and user acquisition, essential for project growth.*

***R&D (7%):** Ensures ongoing development and improvement of the project in the long term.*

***Liquidity / Listing (9%):** Provides liquidity on exchanges, facilitating trades, stabilizing token prices, and influencing circulating supply.*



G.6 Utility Token Classification

Yes

G.7 Key Features of Goods/Services of Utility Tokens

Key Benefits of NAEST Tokens:

- Cost Optimization: Reduced transaction fees.
- Customized Reward Programs: Tailored incentives for users.
- Access to Exclusive Advantages: Unique chances for holders.
- Active Participation in Platform Governance: Involvement in decision-making processes.

The NAEST Tokens has been developed with a dual mission: to stimulate user engagement and promote an ethical and sustainable economic model.

Innovative Features:

- Progressive unlocking of benefits: based on the number of tokens held. Participation in ecosystem governance: involvement in non-strategic decision-making. Priority access to future NAEST initiatives: early involvement in new projects. Token holders' votes are advisory and non-binding for the issuer.
- Future vision: NAEST continuously explores new ways to enrich the token's utility. Our approach is guided by transparency and responsible innovation, with a focus on creating value for our users.
- Participatory governance of the NAEST foundation: we are exploring the possibility of involving NST holders in the governance of our future CSR Foundation. This initiative aims to strengthen our community engagement and promote decentralized decision-making.
- It is also important to consider the NAEST Token as an internal payment method within the NAEST ecosystem.

In summary, the NAEST token is designed to be the engine of innovation and community engagement within the NAEST ecosystem, paving the way for a future where transport, mobility, and decentralized finance converge ethically and sustainably.

G.8 Utility Tokens Redemption

The specific redemption process typically involves:

- *Connecting a compatible wallet to the platform*

- *Selecting the desired good or service*
- *Initiating the redemption transaction*
- *Confirming the exchange of tokens for the chosen item or feature*

It's important to note that utility tokens (NAEST tokens) are only redeemable within NAEST app or platform or ecosystem, creating a closed-loop system for token circulation and usage.

G.9 Non-Trading Request

Not sought

G.10 Crypto-Assets Purchase or Sale Modalities

After the NAEST public sale, there are two ways to buy or sale NAEST tokens: Centralized exchanges (CEX) and Decentralized exchanges (DEX)

G.11 Crypto-Assets Transfer Restrictions

Restrictions refer to limitations on the ability to transfer crypto-assets that are being offered or admitted to trading. These restrictions can include:

- *Travel Rule Compliance: As per the new EU regulations, transfers of crypto-assets must be accompanied by information about the sender and recipient. This applies to all transactions, regardless of the amount.*
- *KYC Requirements: Crypto-asset service providers (CASPs) must perform Know Your Customer (KYC) checks on both the sender and recipient of funds for each transaction.*
- *Traceability Measures: All crypto-asset transfers must be traceable to prevent and detect money laundering and terrorist financing.*
- *Reporting Thresholds: While there are no minimum thresholds for reporting, transactions over 1,000 euros from self-hosted wallets interacting with CASPs are subject to additional verification.*
- *Geographic Restrictions: Transfers may be restricted to or from certain jurisdictions (1) to comply with local regulations or sanctions.*
- *Time-based Restrictions: There might be lock-up periods or vesting (2) schedules for newly issued tokens.*
- *Regulatory Compliance: Transfers must comply with all applicable laws and regulations, including those related to anti-money laundering (AML) and countering the financing of terrorism (CFT)35.*

These restrictions aim to enhance transparency, prevent illicit activities, and ensure compliance with regulatory standards in the crypto-asset market.

(1) The NAEST token is not available to persons residing in or present in restricted countries. Restricted Countries refers to: Africa (Angola, Cameroon, Mali, Mozambique, Nigeria, Democratic Republic of Congo, South Sudan, Tanzania), Americas (United States, Bolivia, Cuba, Ecuador, Haiti, Panama, Trinidad and Tobago, Venezuela), Asia (Afghanistan, North Korea, Iran, Myanmar, Pakistan, Russia, Syria, Yemen), Europe (Belarus, Russia), Oceania (Anguilla, Fiji, Guam, Palau, Samoa, American Samoa, Vanuatu).

(2) See our "Token Metrics Audit Report" on www.naest.io

G.12 Supply Adjustment Protocols

Yes

G.13 Supply Adjustment Mechanisms

Here are our supply adjustment protocols for NAEST tokens:

- *Minting and burning: NAEST uses mechanisms for creating (minting) and destroying (burning) tokens to dynamically adjust the supply. This helps maintain a balance between supply and demand.*
- *Liquidity pools: NAEST uses liquidity pools where users can deposit tokens. The price and supply are adjusted based on activity in these pools.*
- *Governance mechanisms: NAEST allows token holders to vote on proposals that can affect the token supply, thus creating a community-based adjustment.*
- *Market making: NAEST uses market maker services for constant buy and sell orders, liquidity provision, inventory management, and algorithm utilization.*

G.14 Token Value Protection Schemes

Yes

G.15 Token Value Protection Schemes Description

These mechanisms used by NAEST aim to protect investors from excessive value fluctuations while maintaining the integrity and utility of the NAEST token within its ecosystem:

- *Staking Mechanisms: Naest token holders can lock their tokens to participate in the network and earn rewards, reducing the circulating supply and stabilizing the value.*
- *Programmed Burning: NAEST tokens are regularly destroyed (burned) to limit inflation and maintain a balance between supply and demand.*
- *Financial Reserves: NAEST project backs NAEST tokens with reserves of assets (fiat or crypto) to ensure stability.*
- *Real Utility: NAEST tokens are designed to provide exclusive access to specific services or products, which strengthens their demand and value.*
- *Community Governance: NAEST token holders participate in decisions regarding the token economy, including supply adjustments or protection mechanisms.*
- *Regular Audits: Independent audits ensure transparency and reinforce investor confidence in the NAEST project.*

G.16 Compensation Schemes

No

G.17 Compensation Schemes Description

Not applicable

G.18 Applicable Law

French law

G.19 Competent Court

Subject to mandatory applicable law, any dispute arising out of or in connection with this white paper and all claims in connection with the NAEST Token shall be exclusively, including the validity, invalidity, breach or termination thereof, subject to the jurisdiction of the courts in Paris (France).

H. PART H – INFORMATION ON THE UNDERLYING TECHNOLOGY

H.1 Distributed ledger technology

General Information on Distributed Ledger Technology and Blockchain

Distributed Ledger Technology (DLT) describes a decentralized and distributed network system architecture where multiple participants maintain and verify a shared database. Unlike traditional databases, DLT systems do not rely on a central authority to ensure data consistency and security. Rather, they distribute control across a network of computers (nodes) and require all changes to be recorded and agreed by the nodes. This distributed approach enhances the resilience and security of such a system, and transparency of the data stored in it without the need for trust between the actors of the systems.

Blockchain technology is a subset of DLT, where the distributed database maintains a continuously growing list of records, called blocks, which are linked together in chronological order and secured using cryptographic techniques. A blockchain generally has the following key characteristics:

- *Distribution: A blockchain operates on a network of nodes, each holding a copy of the ledger and each participating in the transaction verification and synchronization process.*
- *Security: Blockchain employs advanced cryptographic methods to secure data. Each block contains a cryptographic hash (a 'digital fingerprint') of the previous block, a timestamp, and transaction data. This structure ensures that once data is recorded, it cannot be altered retroactively without also changing all subsequent blocks, which would require consensus from the majority of the network nodes.*
- *Transparency and Immutability: Transactions on a blockchain are usually visible to all participants in the network, providing transparency. Once a transaction is confirmed and added to the blockchain, it is virtually immutable due to the cryptographic methods used, meaning it cannot be changed or deleted.*

NAEST SAS issues NAEST tokens on SOLANA blockchain.

The Solana Blockchain

Solana is engineered for widespread, mainstream use by being energy efficient, lightning fast, and extremely inexpensive.

Many of the core Solana builders, like co-founder Anatoly Yakavenko, have a background in building cell phone networks. That means that they are singularly focused on building for scalability (the ability to grow) and efficiency (the ability to get the most information across with the least amount of resources). They believe that in order for people to build the projects that will get the public using blockchain technology, you need to make it as easy and painless as possible for people to experiment and use the technology as possible.

Some of the current leading blockchain technologies use energy-hogging, time-consuming mining — or solving very complex calculations — to validate security, and have fees that can range into the hundreds of dollars per transaction. Solana uses what's called proof of stake to validate information — there's no mining involved — and a special innovation called proof of history on top of that that allows it to validate even quicker. That makes it extremely efficient, using energy at the same scale as a few Google searches and significantly less energy than other regular household uses like running your refrigerator. Transaction fees, which are used to maintain blockchain networks and have ballooned elsewhere, are a fraction of a cent on Solana.

All of that translates into projects and tools built on Solana that can be as frictionless and easy to use as the rest of the internet, for both developers and users.

Further Information Sources and Links

(All links validated as per 5 March 2025)

- *https://solana.com/ provides comprehensive information about the Solana blockchain, including its technology, vision, roadmap, staking, governance, developer resources, and the latest updates on ecosystem projects.*
- *https://solana.com/docs*
- *https://solana.com/developers/cookbook*
- *https://solscan.io/*

H.2 Protocols and Technical Standards

In Solana's protocols and technical standards are designed to support its high-performance blockchain, enabling scalability, low transaction costs, and developer-friendly infrastructure. Below are the key protocols and standards that define Solana:

1. Core Protocols

- Proof of History (PoH): A unique consensus mechanism that timestamps transactions cryptographically, enabling high throughput and efficient ordering of transactions.

- Proof of Stake (PoS): Used alongside PoH to secure the network and validate transactions.

- Transactions: Solana supports bundling multiple instructions into a single transaction, ensuring atomicity (all succeed or fail together), which is critical for complex operations like DeFi trades.

2. Technical Standards

- SPL Token Standard: Similar to Ethereum's ERC-20, SPL is the standard for creating and managing tokens on Solana. It allows developers to issue fungible and non-fungible tokens efficiently.

- Program Derived Addresses (PDAs): Accounts controlled programmatically by specific programs, used for secure operations like escrow accounts or token management.

3. Smart Contracts (Programs)

- Solana refers to smart contracts as "Programs," which are stateless executable accounts. They process instructions and can invoke other programs through "Cross-Program Invocations," enabling composability.

- Programs are upgradeable, allowing developers to improve functionality over time without deploying entirely new contracts.

4. Scalability Features

- High Throughput: Solana can handle up to 50,000 transactions per second (TPS) with block times of approximately 400ms and minimal fees ($0.0001 per transaction).

- No Sharding: Unlike some blockchains, Solana does not require sharding to achieve scalability. Instead, it scales natively with hardware improvements following Moore's Law.

5. Developer Tools

- Rich documentation and tools for developers include RPCs (Remote Procedure Calls), subscriptions, and comprehensive guides for building on the network.

- Support for programming in Rust and C for high-performance smart contract development.

6. Cross-Chain Interoperability

- Wormhole Bridge: A decentralized bridge that allows seamless transfer of tokenized assets between Solana and other blockchains like Ethereum, enabling interoperability without rewriting codebases.

These protocols and standards make Solana a leading choice for developers building scalable applications in areas such as DeFi, NFTs, gaming, and more.

H.3 Technology Used

Solana employs a unique combination of technologies to enable the holding, storing, and transfer of crypto-assets efficiently. Below are the key technological components:

1. Consensus Mechanisms

- Proof of History (PoH): A cryptographic clock that timestamps transactions, ensuring efficient ordering and high throughput.

- Delegated Proof of Stake (dPoS): Validators secure the network by staking SOL tokens, earning rewards for validating transactions.

2. Transaction Processing

- Solana can process up to 65,000 transactions per second (TPS) with block times of 400–800 milliseconds. It achieves this through:

- Turbine Protocol: Splits data into smaller packets for faster propagation across validators.

- Pipeline Architecture: Parallel transaction processing for high efficiency.

3. Token Standards

- SPL Tokens: The Solana Program Library (SPL) provides a unified standard for fungible and non-fungible tokens, ensuring compatibility with wallets and smart contracts. SPL tokens are used for various applications, including DeFi and NFTs.

4. Smart Contracts

- Solana supports stateless smart contracts called "Programs," enabling composability and scalability for decentralized applications.

5. Native Token (SOL)

- SOL is used for transaction fees, staking, and securing the network. It plays a vital role in maintaining the blockchain's functionality.

6. Developer Tools

- Solana offers robust tools like Rust and C programming support, enabling developers to build high-performance applications easily.

This combination of innovative protocols and standards makes Solana a leading blockchain platform for scalable and efficient crypto-asset management.

H.4 Consensus Mechanism

Proof of History (PoH) is an innovative consensus mechanism developed by Anatoly Yakovenko, founder of Solana Labs. It serves as a cryptographic clock for the Solana blockchain, ensuring a verifiable order of events and enabling high-speed transaction processing. Below is an overview of its key features and functionality:

How Proof of History Works

- *Timestamping Transactions: PoH creates a historical record by timestamping transactions using a Verifiable Delay Function (VDF). This function is computationally intensive, making it resistant to manipulation.*
- *Sequential Hashing: The SHA256 hash function is applied repeatedly to generate a sequence where each hash depends on the previous one. This creates a tamper-proof chain that proves the order and timing of transactions.*
- *Integration with Proof of Stake (PoS): PoH works alongside Solana's Proof of Stake mechanism to validate blocks efficiently, reducing network latency and improving scalability.*

Key Benefits

- *High Throughput: By pre-ordering transactions, PoH enables Solana to process over 65,000 transactions per second (TPS) with block times as low as 400 milliseconds.*
- *Scalability: PoH reduces the workload on network nodes, allowing the blockchain to scale without sharding.*
- *Security: The cryptographic nature of PoH ensures that timestamps are immutable and resistant to tampering.*
- *Energy Efficiency: Unlike Proof of Work, PoH is energy-efficient, requiring significantly less computational power.*

Applications

PoH is particularly suited for decentralized finance (DeFi), non-fungible tokens (NFTs), and other high-throughput applications where speed and efficiency are critical.

By combining PoH with its robust ecosystem, Solana has established itself as one of the fastest and most scalable blockchain networks available today.

H.5 Incentive Mechanisms and Applicable Fees

Incentive Mechanisms

- *Validator Rewards: Validators are incentivized through staking rewards and transaction fees. They earn newly minted SOL tokens and a portion of transaction fees for processing transactions and maintaining network security. Performance-based rewards encourage validators to process transactions quickly. Validators who confirm more transactions efficiently receive a greater share of fees, motivating them to optimize their infrastructure. Validators are penalized for misbehavior or downtime through "slashing," where a portion of their staked funds is confiscated. This ensures network reliability and security.*
- *Staking Mechanism: Token holders can delegate their SOL tokens to validators, contributing to network security while earning staking rewards proportional to the validator's performance. The staking mechanism aligns the interests of token holders and validators, promoting decentralization and trust in the ecosystem.*
- *Fee Distribution: Transaction fees are split, with 50% burned (reducing SOL's circulating supply) and 50% distributed to the validator processing the transaction. This dual mechanism enhances SOL's value as a deflationary asset while rewarding validators.*

Applicable Fees

- *Base Transaction Fees: The base fee for transactions is set at a minimum of 5,000 lamports (0.000005 SOL) per signature, making Solana one of the most cost-efficient blockchains.*
    - *These fees compensate validators for computational resources and discourage spam transactions.*

- *Prioritization Fees: Optional prioritization fees allow users to expedite their transactions during periods of high demand. These fees are calculated based on the transaction's compute unit limit and price in micro-lamports.*
- *Rent Fees: Rent fees are charged for storing account data on-chain. Users must maintain a balance above the rent-exemption threshold to keep accounts active. These fees are reclaimable when accounts are closed, ensuring efficient use of storage resources.*
- *Average Costs: On average, Solana gas fees range between $0.00025 and $0.006 per transaction, significantly lower than most other blockchain networks like Ethereum or Avalanche.*

Solana's incentive mechanisms and fee structure are designed to balance scalability, low costs, and network security. Validators are rewarded for performance while being penalized for downtime or malicious behavior, ensuring a robust network. The combination of low transaction costs, optional prioritization fees, and deflationary measures like fee burning makes Solana an attractive platform for developers and users alike.

H.6 Use of Distributed Ledger Technology

No, DLT not operated by the issuer or a third-party acting on the issuer's behalf

H.7 DLT Functionality Description

The Solana network does not rely on a single entity but is rather operated by all nodes participating in transaction validation and block generation. The network is sufficiently decentralized so that there is no central party operating the system. Anyone is open to operate a node and contribute to Solana's operation.

H.8 Audit

Yes

H.9 Audit Outcome

Several audits have been conducted on Solana's smart contracts and ecosystem, with generally positive outcomes:

1. Halborn completed a security audit of 21BTC on Solana, finding no high or critical vulnerabilities. The audit identified only two low-severity and two informational issues, which helped secure the project against edge cases.

2. Halborn also audited the SPL Token 2022 program, where they discovered and helped remediate two critical vulnerabilities:

- A vulnerability allowing users to avoid paying transfer fees

- A vulnerability enabling the transfer of non-transferable tokens

3. Halborn has been involved in assessing the security of more than 40 projects and applications built on the Solana blockchain, covering various layers and ecosystem projects including DeFi, infrastructure, and P2E game.

4. The audits have contributed significantly to the overall security and resilience of the Solana ecosystem by identifying and addressing vulnerabilities in both the Solana L1 and multiple decentralized applications.

5. Audit firms like Hacken, Vibranium Audits, and Cyberscope offer specialized Solana smart contract auditing services, indicating a robust ecosystem for security assessments.

These audit outcomes demonstrate that while vulnerabilities can be found, they are typically addressed promptly, contributing to the overall security and reliability of the Solana blockchain and its associated projects.

Links:

https://hacken.io/services/blockchain-security/solana-smart-contract-security-audit/

https://www.vibraniumaudits.com/post/how-to-audit-solana-smart-contracts

https://www.onesafe.io/blog/importance-of-crypto-auditing-in-solana-ecosystem

https://www.cyberscope.io/solana-smart-contract-audit

https://www.cyberscope.io/audits/coin-solana

https://www.halborn.com/case-studies/post/case-study-enhancing-security-for-the-solana-blockchain-ecosystem-with-halborn

https://hashex.org/chains/solana/

J. INFORMATION ON THE SUSTAINABILITY INDICATORS IN RELATION TO ADVERSE IMPACT ON THE CLIMATE AND OTHER ENVIRONMENT-RELATED ADVERSE IMPACTS

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

J.1 Mandatory information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism

General Information	
S.1 Name *Name reported in field A.1*	*NAEST*
S.2 Relevant legal entity identifier Identifier referred to in field A.2	*NAEST*
S.3 Name of the crypto-asset Name of the crypto-asset, as reported in field D.2	*NAEST*
S.4 Consensus Mechanism The consensus mechanism, as reported in field H.4	*Proof of History*
S.5 Incentive Mechanisms and Applicable Fees Incentive mechanisms to secure transactions and any fees applicable, as reported in field H.5	***Incentive Mechanisms*** • *Validator Rewards* • *Staking Mechanism* • *Fee Distribution* ***Applicable Fees***

	• *Base Transaction Fees* • *Prioritization Fees* • *Rent Fees* • *Average Costs*
S.6 Beginning of the period to which the disclosure relates	*2024-07-18*
S.7 End of the period to which the disclosure relates	*2024-07-18*
Mandatory key indicator on energy consumption	
S.8 Energy consumption Total amount of energy used for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions, expressed per calendar year	*16,627,573.61 kwh*
Sources and methodologies	
S.9 Energy consumption sources and Methodologies Sources and methodologies used in relation to the information reported in field S.8	*https://climate.solana.com/mica-compliance* *https://climate.solana.com/methodology*

J.2 Supplementary information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism

Supplementary key indicators on energy and GHG emissions	
S.10 Renewable energy consumption Share of energy used generated from renewable sources, expressed as a percentage of the total amount of energy used per calendar year, for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions.	*34.76 %*
S.11 Energy intensity Average amount of energy used per validated transaction	*0.0000100 kwh*

S.12 Scope 1 DLT GHG emissions – Controlled Scope 1 GHG emissions per calendar year for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions	*0 t*
S.13 Scope 2 DLT GHG emissions – Purchased Scope 2 GHG emissions, expressed in tCO2e per calendar year for the validation of transactions and the maintenance of the integrity of the distributed ledger of transactions	*5,064.46 t*
S.14 GHG intensity Average GHG emissions (scope 1 and scope 2) per validated transaction	*0.0000000 kg*
Sources and methodologies	
S.15 Key energy sources and methodologies Sources and methodologies used in relation to the information reported in fields S.10 and S.11	*https://climate.solana.com/mica-compliance* *https://climate.solana.com/methodology*
S.16 Key GHG sources and methodologies Sources and methodologies used in relation to the information reported in fields S.12, S.13 and S.14	*https://climate.solana.com/mica-compliance* *https://climate.solana.com/methodology*