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INTRODUCTORY STATEMENTS

N°	FIELD	CONTENT
01	Date of Notification	This crypto-asset white paper ("**White Paper**") was notified to Malta Financial Services Authority ("**MFSA**") on 2025-03-20.
02	Statement in Accordance with Article 6 (3) of Regulation (EU) 2023/1114	This White Paper has not been approved by any competent authority in any Member State of the European Union ("**EU**"). The person seeking admission to trading of the crypto-asset is solely responsible for the content of this White Paper.
03	Statement in Accordance with Article 6 (6) of Regulation (EU) 2023/1114	This White Paper complies with Title II of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto assets and, to the best of the knowledge of the management body of the Person Seeking Admission to Trading, the information presented in this White Paper is fair, clear and not misleading and the White Paper makes no omission likely to affect its import.
04	Statement in Accordance with Article 6 (5) points (a), (b), (c) of Regulation (EU) 2023/1114	The crypto-asset referred to in this White Paper may lose its value in part or in full, may not always be transferable and may not be liquid.
05	Statement in Accordance with Article 6(5), point (d) of Regulation (EU) 2023/1114	Statement - True The utility token referred to in this white paper may not be exchangeable against the good or service promised in the White Paper, especially in the case of a failure or discontinuation of the crypto-asset project.

06	Statement in Accordance with Article 6(5), points (e) and (f) of Regulation (EU) 2023/1114	The crypto-asset referred to in this White Paper is not covered by the investor compensation schemes under Directive 97/9/EC of the European Parliament and of the Council. The crypto-asset referred to in this White Paper is not covered by the deposit guarantee schemes under Directive 2014/49/EU of the European Parliament and of the Council.

SUMMARY

07	Warning in accordance with Article 6(7) second subparagraph of Regulation (EU) 2023/1114	**Warning** This summary should be read as an introduction to the White Paper. The prospective holder should base any decision to purchase the crypto-asset on the content of the White Paper as a whole and not on the summary alone. The Admission to Trading of the crypto-asset does not constitute an offer or solicitation to purchase financial instruments, or an Admission to Trading of financial instruments and any such offer, solicitation or admission can be made only by means of a prospectus or other offer documents pursuant to the applicable national law. This 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	Key Information about the Characteristics of the Crypto-Asset	The crypto-asset in this White Paper is called the "**SHM Token**" and is intended to serve as a native token of the Shardeum Blockchain, a public and decentralized Layer 1 Blockchain ("**Shardeum Blockchain**" or "**Protocol**"). The SHM Token enables its holders to access and interact with the Shardeum Blockchain and qualifies as a utility token under Regulation (EU) 2023/1114 of the European Parliament and the Council of 31 May 2023 on markets in crypto-assets ("**MiCA**"). See F.2. for more details of the SHM Token's functionalities.
09	Key Information about the Quality and Quantity of the Goods or Services to which the Utility Token give Access Restrictions on Transferability.	**Quantity and Quality of the Goods and/or Services –** The SHM Token is a prerequisite to interact with a DLT technology, i.e., the Shardeum Blockchain. The range and quality of the utilities accessible on the Shardeum Blockchain will depend on the Shardeum Blockchain development and the development activity perfomed by third party developers. **Restrictions on Transferability** -The SHM Token will be freely transferable.

10	Key information about the Offer to the Public or Admission to Trading	To support the mainnet launch of the Shardeum Blockchain, Shardeum Foundation ("**Foundation**"), a foundation established in Switzerland ("**Person Seeking Admission to Trading**" and/or "**Issuer**", hereinafter used interchangeably), seeks admission of the SHM Token on multiple trading platforms, among which Trading Platforms within the EU ("**Platforms**" and/or "**Trading Platforms**").

PART I – INFORMATION ABOUT THE RISKS

I.1 Admission to Trading-Related Risks

I.1	Admission to Trading-Related Risks	▪ **Lack of Control Risk**. The Person Seeking Admission to Trading neither operates nor controls, oversees, or manages the functioning of the Platform, where the SHM Token will be traded. This implies that: ▪ Any legal relationship between the SHM Token holders and the Platform is governed solely by the terms and conditions set by the Platform at its discretion; ▪ The Person Seeking Admission to Trading assumes no responsibility or liability for the operations, services, security, performance, or any outcomes—whether financial or technical—arising from transactions conducted through the Platform. Technical disruptions or failures could adversely affect the offer of SHM Tokens, the value of SHM Token and/or the situation of SHM Token holders. ▪ The Person Seeking Admission to Trading provides no assurances regarding the Platform itself and assumes no responsibility or liability for any regulatory, compliance, operational, financial, technical, or reputational failures that may adversely affect its activities. This includes, but is not limited to, circumstances where such failures result in disruptions, restrictions on trading, or the Platform halting or ceasing its operations entirely, due to sanctions, bankruptcy or alike. The foregoing may result in substantial or even total losses for the SHM Token holder.

		▪ **Cybersecurity and Fraud Risk:** The SHM Token listing may be vulnerable to cyberattacks, unauthorized access, and fraud. The Platform may be exposed to attacks by hackers or other individuals that could result in theft or loss of the SHM Tokens. Digital assets are inherently subject to the risk of cybercrime and fraud. In addition, there is a risk that fraudulent actors might target the SHM Token listing with phishing scams, fake websites, or other malicious tactics. Buyers should ensure they only use verified and official channels to reduce these risks. ▪ **Bankruptcy Risk**: The Platform may go bankrupt during the Admission to Trading of the SHM Token, which may result in substantial or even total losses for the SHM Token holder. ▪ **Market and Demand Volatility Risk:** The SHM Token's value is influenced by market sentiment, competition, and ecosystem adoption. A downturn in market conditions or insufficient demand can negatively impact both token value and strategic objectives. ▪ **Jurisdictional Limitations Risk**: Due to regulatory requirements, individuals from certain regions may be prohibited from participating. These restrictions can limit the overall market and affect the SHM Token's adoption. ▪ **Data Privacy and Personal Information Risk:** The collection of sensitive personal data during KYC processes makes the project susceptible to breaches or mishandling of information, which can result in legal consequences and erode trust. ▪ **Eligibility Verification Issues Risk**: The KYC process might disqualify some individuals or entities if they fail to meet the necessary criteria, potentially leading to dissatisfaction among potential participants. ▪ **Tax Implications Risk**: SHM Token holders might incur tax liabilities related to the purchasing, holding, trading and using of the SHM Token. Varying tax regulations across different jurisdictions can create additional costs or uncertainty for participants. ▪ **Unanticipated Risk**: In addition to the risks outlined in this Section, unforeseen risks may arise. Additionally, new risks could emerge as unexpected variations or combinations of the risks discussed in these Sections I.1 to I.5.

I.2 Person Seeking Admission to Trading - Related Risks

I.2	Person Seeking Admission to Trading (Issuer)-Related Risks	The Person Seeking Admission to Trading also qualifies as Issuer within the meaning of article (3) (1) (10) of MiCA. For the sake of consistency, these terms are hereinafter used interchangeably. ▪ **Regulatory and Compliance Risk:** Persons Seeking Admission to Trading of crypto assets must meet a broad range of regulatory requirements across various jurisdictions. Changes in laws—or failure to comply with standards such as AML and CTF—can lead to fines, sanctions, or even suspension of the Admission to Trading, thereby impacting its market acceptance. ▪ **Legal and Litigation Risk:** Uncertainties in legal interpretations, potential lawsuits, and unfavorable legal rulings can significantly affect the legitimacy, usability, and value of the SHM Token, as well as the project's overall continuity. ▪ **Corporate Governance and Operational Integrity Risk:** Effective management of internal processes, personnel, and technologies is crucial. Weak governance or operational failures can lead to compliance breaches, inefficiencies, and mismanagement, ultimately disrupting token distribution and damaging credibility. ▪ **Token Issuance and Distribution Risk:** Errors or delays in the issuance and distribution process—whether due to smart contract issues or allocation mistakes—can trigger disputes, financial losses, and reputational harm. ▪ **Third-Party and Counterparty Risk:** Relying on external partners, suppliers, and collaborators (such as token sale platforms and blockchain validators) exposes the project to risks of non-fulfillment or service disruptions that may impede overall ecosystem performance.

		▪ **Financial and Liquidity Risk:** Challenges such as liquidity, credit, and market fluctuations can strain the Person Seeking Admission to Trading's financial resources. Underperforming sales, unexpected expenses, or mismanagement of funds may undermine operational stability and the SHM Token's value. ▪ **Environmental, Social, and Governance (ESG) Risk:** Heightened scrutiny of blockchain's environmental impact and the adherence to robust governance standards can affect public perception. Failure to meet ESG criteria may lead to reputational damage and reduced stakeholder trust. ▪ **Key Personnel Dependency Risk:** The success of the project may depend heavily on the expertise and leadership of specific individuals. Loss or changes in key personnel could disrupt operations and diminish confidence in the project's future. ▪ **Reputational Risk:** Negative publicity—stemming from operational failures, security breaches, or mismanagement—can erode trust in the Person Seeking Admission to Trading and the token, ultimately impacting market acceptance and overall value. ▪ **Unanticipated Risk:** In addition to the risks outlined in this Section, unforeseen risks may arise. Additionally, new risks could emerge as unexpected variations or combinations of the risks discussed in these Sections I.1 to I.5.

I.3 Crypto-Assets-Related Risks

I.3	Crypto-Assets-Related Risks	▪ **Market Risk**: Crypto assets, including SHM Tokens, are highly volatile and can experience significant price swings in short periods, increasing the risk of sudden and substantial losses. Such valuation risk arises as the market value of a crypto asset may not always reflect its underlying utility or fundamentals and is subject to subjective assessment. SHM Token holders are thus exposed to potential for losses due to:

		▪ Fluctuations in its value, driven by various factors such as supply and demand dynamics, investor sentiment, and broader market trends, incl. changes in interest rates, general movements in local and international markets, technological advancements, regulatory changes, and media coverage. Notably, momentum pricing of crypto assets has previously resulted, and may continue to result, in speculation regarding future appreciation or depreciation in the value of such assets, further contributing to volatility and potentially inflating prices at any given time. ▪ Liquidity risk, where a lack of depth in secondary markets – if any – or limited trading volumes can hinder the ability to execute trades at favorable prices, which could lead to significant losses, especially in fast-moving market conditions. As a result, holders of SHM Tokens may experience challenges in managing their holdings, with the value of the asset subject to unpredictable fluctuations and potential depreciation. ▪ **Custodial Risk:** The method chosen to store SHM Tokens, like any crypto-asset, carries inherent risks related to the security and management of the storage solution. The chosen storage method can significantly impact the safety, liquidity, and accessibility of SHM Tokens, with direct consequences for the holder's ability to access, trade, or retain their assets. ▪ **Scam Risk**. This is the risk of loss resulting from a scam or fraud suffered by SHM Token holders from other malicious actors. These scams include – but are not limited to – phishing on social networks or by email, fake giveaways, identity theft of the Person Seeking Admission to Trading or its management body, creation of fake SHM Tokens, offering fake SHM Token airdrops, among others. ▪ **Anti-Money Laundering/Counter-Terrorism Financing Risk:** This is the risk that crypto-asset wallets holding SHM Token or transactions in SHM Token may be used for money laundering or terrorist financing purposes or identified to a person known to have committed such offenses. There is thus a risk that a public address holding SHM Tokens could be flagged in relation to Anti-Money Laundering or Counter-Terrorism Financing efforts. In such cases, receiving SHM Tokens could result in the holder’s

		address being flagged by relevant authorities or service providers, which may lead to restrictions on transactions or the freezing of assets. Consequently, holders of SHM Tokens may face legal or regulatory challenges if their address becomes associated with illicit activities, impacting their ability to freely access, trade, or transfer their tokens. ▪ **Taxation Risk:** The taxation regime that applies to the trading of SHM Tokens by either individual holders or legal entities will depend on each SHM Token holder's jurisdiction. The Person Seeking Admission to Trading cannot guarantee that the holding of SHM Token, the reception of the SHM Token, conversions of fiat currency against the SHM Token, or conversions of other crypto assets against the SHM Token, will not incur tax consequences. It is the SHM Token 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 SHM Token. ▪ **Market Abuse Risk:** The market for crypto assets is rapidly evolving, spanning local, national, and international platforms with an expanding range of assets and participants. Any market abuse, along with a potential loss of confidence among holders, could adversely impact the value and stability of SHM Tokens. Notably, ▪ Significant trading activity may take place on systems and platforms with limited oversight and predictability. Sudden and rapid changes in the supply or demand of a crypto asset, particularly those with low market capitalization or low unit prices, can result in extreme price volatility. ▪ Additionally, the inherent characteristics of crypto assets and their underlying infrastructure may be exploited by certain market participants to engage in abusive trading practices such as front-running, spoofing, pump-and-dump schemes, and fraud across different platforms, systems, or jurisdictions.

		▪ **Legal and Regulatory Risk**: There is a lack of regulatory harmonization and cohesion globally, which results in diverging regulatory frameworks and possible further regulatory evolutions in the future. These could negatively impact the value, utility, and overall viability of SHM Tokens. Notably, ▪ While SHM Tokens do not create or confer any contractual or other obligations against any party, certain non-EU/EEA regulators may nevertheless classify them as securities, financial instruments, or payment instruments under their respective legal frameworks. Such classifications could impose specific regulatory constraints, leading to significant changes in how SHM Tokens are structured, issued, purchased, or traded. ▪ Evolving regulations could substantially increase the Person Seeking Admission to Trading's compliance costs and operational burdens related to facilitating transactions in SHM Tokens. ▪ New or restrictive regulations could result in the SHM Token losing functionality, depreciating in value, or even becoming illegal or impossible to use, buy, or sell in certain jurisdictions. ▪ Regulators could take enforcement action against the Person Seeking Admission to Trading if they determine that the SHM Token constitutes a regulated instrument or that the Person Seeking Admission to Trading's activities violate existing laws. Such actions could expose the Person Seeking Admission to Trading, its affiliates, directors, and officers, as well as the Person Seeking Admission to Trading and its own affiliates, directors and officers, to legal and financial penalties, including civil and criminal liability. ▪ **Interest Rate Change Risk**: Changes in interest, foreign exchange rates, and increases in volatility can increase credit and market risks and may also affect the value of the SHM Tokens. General movements in local and international markets and factors that affect market climate, and the crypto-asset holder sentiment could affect the level of trading and, therefore, the market price of SHM Tokens.

		▪ **Unanticipated Risks**: In addition to the risks outlined in this Section, unforeseen risks may arise. Additionally, new risks could emerge as unexpected variations or combinations of the risks discussed in these Sections I.1 to I.5

I.4 Project Implementation-Related Risks

I.4	Project Implementation-Related Risks	▪ **Suitability Risk**: (i) The Shardeum Blockchain will be deployed on an "as is" and "as available" basis, with reasonable level of care but without warranties of any kind, and the Person Seeking Admission to Trading expressly disclaims all implied warranties as to the SHM Token, the Shardeum Blockchain including, without limitation, implied warranties of merchantability, fitness for a particular purpose, title and non-infringement; (ii) the Person Seeking Admission to Trading does not warrant that the SHM Token and/or, the Protocol are reliable, current or error-free, meet the SHM Token's requirements, or that defects in the SHM Token and/or the Shardeum Blockchain will be corrected; and (iii) the Person Seeking Admission to Trading cannot and does not warrant that the SHM Token, the software code of the SHM Token smart contracts, or the delivery mechanism for SHM Token or the Shardeum Blockchain, are free of viruses or other harmful components. ▪ **Software Weakness Risk**: The SHM Token holder understands and acknowledges that the involved software, infrastructure, smart contracts, and related technologies supporting the Shardeum Blockchain are young technologies, which is why there is no warranty that the process for receiving, using, and holding the SHM Token will be uninterrupted or error-free and that there is an inherent risk that the underlying blockchain, the smart contracts thereon, as well as any related technologies or concepts could contain weaknesses, vulnerabilities or bugs causing, inter alia, the complete loss of SHM Token or its functionality. ▪ **Withdrawing Partner Risk**: The SHM Token holder understands and accepts that the feasibility of the Shardeum Blockchain as a whole depends strongly on the collaboration of services providers and other crucial partners. The SHM Token holder therefore

		understands that there is no assurance that the Shardeum Blockchain as a whole will be successfully implemented. ▪ **Custody Risks**: Project's assets are held by a third-party custodian and, as such, are exposed to inherent custody risks. There are potential vulnerabilities when external custodial services are utilized. These risks include, but are not limited to, operational failures, mismanagement, and potential security breaches, all of which could adversely affect asset integrity, liquidity, and the future funding of the project. While third-party custodians may offer advanced security measures, they also introduce an additional layer of risk. ▪ **Unanticipated Risks**: In addition to the risks outlined in this Section, unforeseen risks may arise. Additionally, new risks could emerge as unexpected variations or combinations of the risks discussed in these Sections I.1 to I.5.

I.5 Technology-Related Risks

I.5	Technology-Related Risks	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 within this section. ▪ **Technology Risk**: The SHM Token holder is aware that the Person Seeking Admission to Trading or any third party may propose to migrate the developed software codes of the Shardeum Blockchain to another underlying distributed-ledger protocol, standard or technology in the future. If the SHM Token holder fails to effectuate such migration, the functionality of the SHM Token may get lost. The Person Seeking Admission to Trading and its affiliates shall not be responsible or liable for any damages, losses, costs, fines, penalties or expenses of whatever nature, whether or not reasonably foreseeable by the Person Seeking Admission to Trading and the SHM Token holder, which the SHM Token holder, may suffer, sustain, or incur, arising out of or relating to the

		SHM Token holder's failure to effectuate such migration of its SHM Token to another protocol or technology identified by the Person Seeking Admission to Trading. ▪ **Suitability Risk**: (i) The Shardeum Blockchain will be deployed on an "as is" and "as available" basis, with reasonable level of care, without warranties of any kind, and the Person Seeking Admission to Trading expressly disclaims all implied warranties as to the SHM Token and the Shardeum Blockchain without limitation, implied warranties of merchantability, fitness for a particular purpose, title and non-infringement; (ii) the Person Seeking Admission to Trading does not warrant that the SHM Token and/or, the Shardeum Blockchain are reliable, current or error-free, meet the SHM Token's requirements, or that defects in the SHM Token, the Shardeum Blockchain will be corrected; and (iii) the Person Seeking Admission to Trading cannot and does not warrant that the SHM Token, the software code of the SHM Token smart contracts, or the delivery mechanism for SHM Token or the Shardeum Blockchain, are free of viruses or other harmful components. ▪ **Protocol Attacks and Forks Risk**: The SHM Token holder understands and accepts that, as with other blockchains, the blockchain used for the SHM Token could be susceptible to consensus-related attacks, including but not limited to double-spend attacks, majority validation power attacks, censorship attacks, and byzantine behavior in the consensus algorithm or be subject to forks. Any successful attack or fork presents a risk to the SHM Token, the expected proper execution and sequencing of SHM Token-transactions and the expected proper execution and sequencing of contract computations as well as the token balances in the wallet of the SHM Token holder. ▪ **Theft / Cybercrime Risk**: The SHM Token holder understands and accepts that, while best efforts are made to reduce potential software attacks on the Shardeum Blockchain, other involved software, other technology components and/or platforms may be exposed to attacks by hackers or other individuals that could result in theft or loss of the SHM Token. Digital assets are inherently subject to the risk of cybercrime. ▪ **Software Weakness Risk**: The involved software in the Shardeum Blockchain and the SHM Token are young technologies, which is why there is no warranty that the process for receiving, using, and holding the SHM Token will be uninterrupted or error-

		free and that there is an inherent risk that the underlying blockchain, the smart contracts thereon, as well as any related technologies or concepts could contain weaknesses, vulnerabilities or bugs causing, inter alia, the complete loss of SHM Token or its functionality. ▪ **Technical Risks Related to Crypto-Assets:** There are a number of technical risks to which holders of crypto-assets are exposed including, but not limited to flaws in the code, Forks in the underlying protocols, Double Spend and “51% attacks”. ▪ **Unanticipated Risks**: In addition to the risks outlined in this Section, unforeseen risks may arise. Additionally, new risks could emerge as unexpected variations or combinations of the risks discussed in these Sections I.1 to I.5.

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I.6 Mitigation Measures

I.6	Mitigation Measures	**Security Audits & Bug Bounties:** Shardeum has undergone two security audits as well as an Immunefi bug bounty program to proactively identify and address vulnerabilities. **Software Reliability:** Continuous testing, third-party audits, and a formal incident response plan ensure swift fixes for any system weaknesses or failures. **Technical & Crypto-Specific Risks Prevention:** Robust consensus mechanisms, real-time monitoring, and network anomaly detection mitigate risks like 51% attacks and double-spends. **Future & Unanticipated Risks Prevention:** A risk management team, open-source development, and academic collaborations help adapt to emerging threats.

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

A.1 Name

A.1	Name	Shardeum Foundation ("**Foundation**")

A.2 Legal Form

A.2	Legal Form	Swiss Foundation per art. 80 of the Swiss Civil Code

A.3 Registered Address

A.3	Registered Address	c/o Sielva Management SA, Gubelstrasse 11, 6300 Zug, Switzerland

A.4 Head Office

A.4	Head Office	Same as Registered Address

A.5 Registration Date

A.5	Registration Date	2022-04-14

A.6 Legal Entity Identifier

A.6	Legal Entity Identifier	N/A

A.7 Another Identifier Required Pursuant to Applicable National Law

A.7	Another identifier required pursuant to applicable national law	CHE-430.365.394

A.8 Contact Telephone Number

A.8	Contact telephone number	+971556751260

A.9 E-mail Address

A.9	E-mail address	foundation@shardeum.org

A.10 Response Time (Days)

A.10	Response Time (Days)	(7) Seven Days

A.11 Parent Company

A.11	Parent Company	N/A

A.12 Members of the Management Body

<table>
<tr>
<td>A.12</td>
<td>Members of the Management body</td>
<td>
<table>
<tr><th>Identity (Name)</th><th>Business Address</th><th>Functions</th></tr>
<tr><td>Nischal Chakrapani Shetty</td><td>c/o Sielva Management SA, Gubelstrasse 11, 6300 Zug, Switzerland</td><td>President of the Board</td></tr>
<tr><td>Markus Felix Spillmann</td><td>c/o Sielva Management SA, Gubelstrasse 11, 6300 Zug, Switzerland</td><td>Board Member</td></tr>
<tr><td>Omar Asifuddin Syed</td><td>c/o Sielva Management SA, Gubelstrasse 11, 6300 Zug, Switzerland</td><td>Board Member</td></tr>
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</table>

A.13 Business Activity

A.13	Business Activity	The Foundation's purpose is to develop and promote the Shardeum ecosystem by providing education, raising public awareness, managing assets, and supporting blockchain-related projects. It may achieve these goals through activities such as research, intellectual property investments, token management, event organization, and

		strategic partnerships, operating both domestically and internationally on a non-profit basis.

A.14 Parent Company Business Activity

A.14	Parent Company Business Activity	N/A

A.15 Newly Established

A.15	Newly Established	True

A.16 Financial Condition for the past three years

A.16	Financial Condition for the past three Years	Over the past three years, the Foundation has demonstrated financial stability, supported by its financial assets, including fiat currencies, funds from fundraising activities, and digital assets. It has received funding totaling approximately 29.7 million EUR, which has been sufficient to fund its activities, including the development and planning for the mainnet launch of the Protocol. This financial management has positioned the Foundation to have sufficient resources, as of today, to continue funding its activities for the next year based on its current business plan.

A.17 Financial Condition Since Registration

A.17	Financial condition since registration	See A.16 since the Foundation has been registered no more than 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

B.1	Issuer Different from Offeror or Person Seeking Admission to Trading	False

B.2 Name

B.2	Name	N/A

B.3 Legal Form

B.3	Legal Form	N/A

B.4 Registered Address

B.4	Registered Address	N/A

B.5 Head Office

B.5	Head Office	N/A

B.6 Registration Date

B.6	Registration Date	N/A

B.7 Legal Entity Identifier

B.7	Legal entity identifier	N/A

B.8 Another Identifier Required Pursuant to Applicable National Law

B.8	Another identifier required pursuant to applicable national law	N/A

B.9 Parent Company

B.9	Parent Company	N/A

B.10 Members of the Management Body

B.10	Members of the Management body	N/A

B.11 Business Activity

B.11	Business Activity	N/A

B.12 Parent Company Business Activity

B.12	Parent Company Business Activity	N/A

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

C.1	Name	N/A

C.2 Legal Form

C.2	Legal Form	N/A

C.3 Registered Address

C.3	Registered Address	N/A

C.4 Head Office

C.4	Head Office	N/A

C.5 Registration Date

C.5	Registration Date	N/A

C.6 Legal Entity Identifier of the Operator of the Trading Platform

C.6	Legal Entity Identifier of the Operator of the Trading Platform	N/A

C.7 Another Identifier Required Pursuant to Applicable National Law

C.7	Another Identifier Required Pursuant to Applicable National Law	N/A

C.8 Parent Company

C.8	Parent Company	N/A

C.9 Reason for Crypto-Asset White Paper Preparation

C.9	Reason for Crypto-Asset White Paper Preparation	N/A

C.10 Members of the Management Body

C.10	Members of the Management Body	N/A

C.11 Operator Business Activity

C.11	Operator Business Activity	N/A

C.12 Parent Company Business Activity

C.12	Parent Company Business Activity	N/A

C.13 Other Persons Drawing up the White Paper under Article 6 (1) second subparagraph, of Regulation (EU) 2023/1114

C.13	Other Persons Drawing up the White Paper according to Article 6(1), second subparagraph, of Regulation (EU) 2023/1114	N/A

C.14 Reason for Drawing up the White Paper under Article 6 (1) second subparagraph MiCA

C.14	Reason for drawing the white paper by persons referred to in Article	N/A

	6(1), second subparagraph, of Regulation (EU) 2023/1114	

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

D.1 Crypto-Asset Project Name

D.1	Crypto-Asset Project Name	Shardeum Project

D.2 Crypto-Assets Name

D.2	Crypto-Assets Name	SHM Token

D.3 Abbreviation

D.3	Abbreviation	SHM

D.4 Crypto-Asset Project Description

D.4	Crypto-asset Project Description	The Shardeum Project evolves around the Shardeum ecosystem, consisting of the SHM Token, NFTs and the Shardeum Blockchain, whose goal it is to solve the so-called “blockchain trilemma” (lack of scalability, decentralization and security) by developing a novel distributed ledger technology (DLT). The Shardeum Blockchain is built as a Layer 1 EVM-compatible sharded blockchain. EVM stands for "Ethereum Virtual Machine" and is used to execute smart contracts with Solidity as the programming language.

		The Protocol uses technologies such as dynamic sharding and auto-scaling, and accordingly has high throughput, low latency and ensures immediate finality of transactions, while ensuring the highest possible level of decentralization and security. By means of development and deployment of (decentralized) applications (such as DeFi, NFT and Web 3.0 applications, etc.) on the Shardeum Blockchain by third-party providers, the aim is to develop and deploy innovative solutions and promote the widespread adoption of blockchain technologies. The applications described above are merely examples, with no guarantee that such utilities will be developed and deployed.

D.5 Details of all Persons Involved in the Implementation of the Crypto-Asset Project

D.5	Details of all Natural or Legal Persons Involved in the Implementation of the Crypto-Asset Project	<table><tr><td>LEGAL</td><td>MME Legal AG Zollstrasse 62 8005 Zürich, Switzerland</td></tr><tr><td>TECH</td><td>AWS, Mintair (node hosting) Amber, Flow Traders (market makers)</td></tr></table>

D.6 Utility Token Classification

D.6	Utility Token Classification	True

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

D.7	Key Features of Goods/Services for Utility Token Projects	By holding the SHM Token, SHM Token holders can: ▪ Interact with the Shardeum Blockchain and its specific utilities as outlined in section D.4 above and F.2. below. The quantity and quality of the services offered is not yet quantifiable and will depend on the the Shardeum Blockchain's development and status.

D.8 Plans for the Token

D.8	Plans for the Token	▪ Testnet Launch: 26 April 2022 ▪ Mainnet launch and TGE: 15 April 2025 - The anticipated TGE date is indicative and could be subject to change based on strategic, regulatory, or market considerations. ▪ Tokensoft limited sale – An offering is expected to take place in early 2025 and will be conducted by the Person Seeking Admission to Trading under the exemption provided by article 4 (2) (a) of MiCA, i.e., limited to fewer than 150 (natural or legal) persons per EU Member State. Such offering does not require the publication of a white paper. For more information, see the roadmap: https://shardeum.org/roadmap/

D.9 Resource Allocation

D.9	Resource Allocation	N/A

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

D.10	Planned Use of Collected Funds or Crypto-Assets	Not applicable because the Foundation is seeking Admission to Trading and does not collect any funds in that context.

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

E.1	Public Offering or Admission to Trading	Admission to Trading (ATTR)

E.2 Reasons for Public Offer or Admission to Trading

E.2	Reasons for Public Offer or Admission to Trading	The purpose of the Admission to Trading is to ensure broad circulation and distribution of the SHM Token among potential users enabling them to take full advantage of the Shardeum Ecosystem.

E.3 Fundraising Target

E.3	Fundraising Target	N/A. This White Paper is published solely in relation to the Admission to Trading of the SHM Token and does not relate to any public offering thereof subject to Title II of Regulation (EU) 2023/1114.

E.4 Minimum Subscription Goals

E.4	Minimum Subscription Goals	N/A. See explanation under E.3.

E.5 Maximum Subscription Goal

E.5	Maximum Subscription Goals	N/A. See explanation under E.3.

E.6 Oversubscription Acceptance

E.6	Oversubscription Acceptance	N/A. See explanation under E.3.

E.7 Oversubscription Allocation

E.7	Oversubscription Allocation	N/A. See explanation under E.3.

E.8 Issue Price

E.8	Issue Price	N/A. See explanation under E.3.

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

E.9	Official Currency or Any Other Crypto-Assets	N/A. See explanation under E.3.

	Determining the Issue Price	

E.10 Subscription Fee

E.10	Subscription Fee	N/A. See explanation under E.3.

E.11 Offer Price Determination Method

E.11	Offer Price Determination Method	N/A. See explanation under E.3.

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

E.12	Total Number of Offered/Traded Crypto-Assets	The total number of traded SHM Tokens is N/A.

E.13 Targeted Holders

E.13	Targeted Holders	ALL

E.14 Holder Restrictions

E.14	Holder Restrictions	The Shardeum Blockchain is permissionless and decentralized. There are no holder restrictions on a Protocol level. The Trading Platforms in accordance with applicable laws and internal policies may impose restrictions to buyers and sellers of the SHM Tokens on the Trading Platforms. In addition, the Foundation imposes its own restrictions in agreements it executes with Trading Platforms, requesting the Trading Platforms to exclude persons or entities located in the United States, Russia, China, or any other jurisdiction subject to comprehensive sanctions, as well as anyone listed on sanctions lists maintained by Switzerland, the EU, UN, UK, or US.

E.15 Reimbursement Notice

E.15	Reimbursement Notice	N/A. See explanation under E.3.

E.16 Refund Mechanism

E.16	Refund Mechanism	N/A. See explanation under E.3.

E.17 Refund Timeline

E.17	Refund Timeline	N/A. See explanation under E.3.

E.18 Offer Phases

E.18	Offer Phases	N/A. See explanation under E.3.

E.19 Early Purchase Discount

E.19	Early Purchase Discount	N/A. See explanation under E.3.

E.20 Time-Limited Offer

E.20	Time-Limited Offer	N/A. See explanation under E.3.

E.21 Subscription Period Beginning

E.21	Subscription Period Beginning	N/A. See explanation under E.3.

E.22 Subscription Period End

E.22	Subscription Period End	N/A. See explanation under E.3.

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

E.23	Safeguarding Arrangements for Offered Funds/Crypto-Assets	N/A. See explanation under E.3.

E.24 Payment Methods for Crypto-Asset Purchase

E.24	Payment Methods for Crypto-Asset Purchase	N/A. See explanation under E.3.

E.25 Value Transfer Methods for Reimbursement

E.25	Value Transfer Methods for Reimbursement	N/A. See explanation under E.3.

E.26 Right of Withdrawal

E.26	Right of Withdrawal	N/A. See explanation under E.3.

E.27 Transfer of Purchased Crypto-Assets

E.27	Transfer of Purchased Crypto-Assets	N/A. See explanation under E.3.

E.28 Transfer Time Schedule

E.28	Transfer Time Schedule	N/A. See explanation under E.3.

E.29 Purchaser's Technical Requirements

E.29	Purchaser's Technical Requirements	SHM Token holders must comply with the technical requirements specific to the Trading Platforms on which it is admitted to trading, which may include the following: ▪ A compatible digital wallet or account on supported exchange; ▪ Internet access; ▪ A device (computer or mobile) to manage digital wallet/private key and/or account on exchange to carry out transactions.

E.30 Crypto-Asset Service Provider (CASP) Name

E.30	Crypto-Asset Service Provider (CASP) Name	N/A. See explanation under E.3.

E.31 CASP identifier

E.31	CASP Identifier	N/A. See explanation under E.3.

E.32 Placement Form

E.32	Placement Form	N/A

E.33 Trading Platforms name

E.33	Trading Platforms Name	OKX MALTA LTD.

E.34 Trading Platforms Market Identifier Code (MIC)

E.34	Trading Platforms Market Identifier Code (MIC)	OEUR

E.35 Trading Platforms Access

E.35	Trading Platforms Access	Trading Platforms are accessible via their respective websites or applications for mobile devices.

E.36 Involved Costs

E.36	Involved Costs	The use of services offered by Trading Platforms may involve costs, including transaction and withdrawal fees, as well as other charges. These costs are determined and set by the respective Trading Platforms and are not controlled, influenced, or governed by the Foundation. Any changes to fee structures of the Exchange or the introduction of new costs are solely at the discretion of these Trading Platforms.

E.37 Offer Expenses

E.37	Offer Expenses	N/A. See explanation under E.3.

E.38 Conflicts of Interest

E.38	Conflicts of Interest	The Shardeum Foundation is not aware of any potential conflict of interest among its management body members or any other persons within Shardeum or any of its affiliates with respect to the Admission to Trading of the SHM Token.

E.39 Applicable Law

E.39	Applicable Law	Any dispute arising out of or in connection with the Person Seeking Admission to Trading and/or the Admission to Trading shall be governed exclusively by Swiss law, without regard to conflict of law rules or principles, except to the extent that such disputes are mandatorily governed by applicable law pursuant to the terms and conditions of the Trading Platforms on which the SHM Token is traded within the EU.

E.40 Competent Court

E.40	Competent Court	Any dispute, controversy, or claim arising out of, or in relation to the Person Seeking Admission to Trading and/or the Admission to Trading shall be exclusively resolved by arbitration in accordance with the Swiss Rules of International Arbitration of the Swiss Arbitration Centre ("**Rules**") in force on the date on which the notice of arbitration is submitted in accordance with those Rules. -The number of arbitrators shall be three; -The seat of the arbitration shall be Zurich, Switzerland; -The arbitral proceedings shall be conducted in English. This arbitration clause shall not apply to disputes that are governed by a specific dispute resolution mechanism pursuant to the terms and conditions of the Trading Platforms on which the SHM Token is traded within the EU.

F. PART F - INFORMATION ABOUT THE CRYPTO-ASSETS

F.1 Crypto-Asset Type

F.1	Crypto-Asset Type	Utility Token

F.2 Crypto-Asset Functionality

F.2	Crypto-Asse Functionality	The SHM Token shall have the following functionalities: ▪ **Access to the Consensus Mechanism**: As with other decentralized, public blockchain protocols, operation and consensus in the network is based on validators (validator nodes) that make their computing power available to the network. By staking a certain number of SHM Tokens, token holders can operate a node and join the network as validator nodes, and thereby participate in the consensus mechanism of the Protocol. The validation or staking function in the Shardeum Blockchain is therefore comparable to that in other PoS protocols. The validation function has two core characteristics: ▪ Staking of the SHM Token is a prerequisite for participating in the network as a validator node and thus in the consensus mechanism, and ▪ If a validator node in the Shardeum Blockchain engages in incorrect behavior or violates consensus rules, SHM Tokens may be evicted under certain conditions. As a reward for their participation in the consensus mechanism and transaction validation, node operators automatically receive SHM Tokens. These rewards come exclusively from newly minted SHM Tokens as part of the network's emission schedule, as 100% of transaction gas fees are burned.

		▪ **Access to the Shardeum Blockchain**: In order to access and use the Shardeum Blockchain, users must pay protocol-inherent transaction fees (gas fees). The SHM Tokens are not intended to be used, now or in the future, as a means of payment for acquiring goods or services or as a means of money or value transfer. According to the article 3 (1) (9) of MiCA, a utility token is a type of crypto-asset that is only intended to provide access to a good or a service supplied by its issuer. The Consultation and Guidelines further specify that utility tokens enable holders to get access to a good, application or service or are required to interact with a DLT's ecosystem, i.e., it facilitates practical/functional utilization within a DLT-based ecosystem. Since the Issuer deploys and supports the Protocol's further development, it effectively delivers access to the Protocol as an indirect service. Consequently, the SHM Token's functionalities align with those of a utility token as defined by MiCA, together with the Consultation and Guidelines.

F.3 Planned Application of Functionalities

F.3	Planned Application of Functionalities	At the time of issuance, the SHM Token will be fully functional, i.e., with the functionality described in F.2. No future applications or functionalities are announced at this time.

F.4 Type of White Paper

F.4	Type of White Paper	OTHR

F.5 The Type of Submission

F.5	The Type of Submission	NEWT

F.6 Crypto-Asset Characteristics

F.6	Crypto-Asset Characteristics	The native token of the Shardeum Blockchain shall be the SHM Token. The SHM Token is a utility token which is required to: ▪ Access the functionality of the Shardeum Blockchain in general (gas function); ▪ Participate as validator in the consensus mechanism of the Shardeum Blockchain (staking function). See above F.2 for full details.

F.7 Commercial Name or Trading Name

F.7	Commercial Name or Trading Name	Shardeum Foundation

F.8 Website of the Issuer

F.8	Website of the Issuer	https://shardeum.org/

F.9 Starting Date of Offer to the Public or Admission to Trading

F.9	Starting Date of Offer to the Public or Admission to Trading	2025-04-23

F.10 Publication Date

F.10	Publication Date	2025-04-22

F.11 Any Other Services Provided by the Issuer

F.11	Any Other Services Provided by the Issuer	N/A

F.12 Identifier of Operator of the Trading Platform

F.12	Identifier of Operator of the Trading Platform	N/A

F.13 Language or Languages of the White Paper

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

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	N/A

F.15 Functionally Fungible Group Digital Token Identifier, Where Available

F.15	Functionally Fungible Group Digital Token Identifier, Where Available	N/A

F.16 Voluntary Data Flag

F.16	Voluntary Data Flag	False

F.17 Personal Data Flag

F.17	Personal Data Flag	True

F.18 LEI Eligibility

F.18	LEI Eligibility	False

F.19 Home Member State

F.19	Home Member State	Malta, pursuant to Article 3 (33) (c) of Regulation (EU) 2023/1114.

F.20 Host Member States

F.20	Host Member State	The Admission to Trading of the SHM Token is passported in the following EU Member States: ▪ Austria ▪ Belgium ▪ Bulgaria ▪ Croatia

		▪ Cyprus ▪ Czechia ▪ Denmark ▪ Estonia ▪ Finland ▪ France ▪ Germany ▪ Greece ▪ Hungary ▪ Iceland ▪ Ireland ▪ Italy ▪ Latvia ▪ Liechtenstein ▪ Lithuania ▪ Luxembourg ▪ Netherlands

		▪ Norway ▪ Poland ▪ Portugal ▪ Romania ▪ Sweden ▪ Slovakia ▪ Slovenia ▪ Spain The above list includes the countries from the European Economic Area ("**EEA**"), i.e., Iceland, Liechtenstein, and Norway. At the time of the notification of the White Paper, MiCA has not yet been incorporated into the EEA Agreement (See the website: https://www.efta.int/eea-lex/32023r1114, last visit March 20, 2025). The Admission to Trading of the SHM Token in the countries of the EEA may not be guaranteed.

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

G.1 Purchaser Rights and Obligations

G.1	Purchaser Rights and Obligations	The SHM Token does not confer any rights or entitlements to its holders. Instead, the SHM Token enables its holders to access and enjoy the utilities of the Shardeum Blockchain once it shall be live and without the Issuer having an operative role. As a result, the Issuer, to the fullest extent permitted by applicable laws, disclaims all warranties, whether express or implied. This includes, but is not limited to, implied warranties of merchantability and fitness for a particular purpose. Moreover, to the fullest extent permissible by applicable laws, the Issuer is not liable for any damages arising from the holding, use, transfer, or interactions involving the SHM Tokens and the Shardeum Blockchain. This limitation applies to all forms of damages, including direct, indirect, incidental, punitive, and consequential damages.

G.2 Exercise of Rights and Obligation

G.2	Exercise of Rights and Obligations	N/A. See answer under G.1.

G.3 Conditions for Modifications of Rights and Obligations

G.3	Conditions for Modifications of Rights and Obligations	N/A. See answer under G.1.

G.4 Future Public Offers

G.4	Future Public Offers	N/A

G.5 Issuer Retained Crypto-Assets

G.5	Issuer Retained Crypto-Assets	55,880,000 SHM Tokens (22.44% of the initial supply of SHM Tokens)

G.6 Utility Token Classification

G.6	Utility Token Classification	True

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

G.7	Key Features of Goods/Services of Utility Tokens	Since the Shardeum Blockchain functions as a decentralized DLT infrastructure that operates autonomously, the Shardeum Ecosystem is a non-exclusionary, rivalrous good/service, which implies that congestion can increase gas prices, thereby limiting others' ability to consume the services available on the Shardeum Blockchain. The Shardeum Blockchain is therefore a common good/service, deployed by the Shardeum Foundation in such a way that no central provider is responsible for delivering the associated service.

		By holding and using the SHM Token, users can consume a common service/good provided by the Shardeum Blockchain which will be deployed by the Shardeum Foundation. Thus, from an economic perspective, the user can consume a service indirectly provided by the issuer of the SHM Token. This is in line with the definition of a utility token in that it is intended to provide access to a good or a service supplied by the issuer of the token. Consequently, the SHM Token also qualifies as a Utility Token.

G.8 Utility Tokens Redemption

G.8	Utility Tokens Redemption	The SHM Token does not provide a redemption right towards the Issuer.

G.9 Non-Trading Request

G.9	Non-Trading Request	True

G.10 Crypto-Assets Purchase or Sale Modalities

G.10	Crypto-Assets Purchase or Sale Modalities	N/A. See explanation under E.3.

G.11 Crypto-Assets Transfer Restrictions

G.11	Crypto-Assets Transfer Restrictions	The SHM Token as such does not have any transfer restrictions and is generally freely transferable. The Foundation imposes its own restrictions in agreements it enters into with Trading Platforms (cf. Section E. 14). Beyond compliance-based restrictions, there are no further limitations on transferability from the Foundation's side.

G.12 Supply Adjustment Protocols

G.12	Supply Adjustment Protocols	**Key Protocol Features:** • **Programmatic SHM Issuance:** New tokens are minted at a variable rate based on the number of active validators. • **Targeted Validator Equilibrium:** The network dynamically adjusts emissions to incentivize participation when validator count is low and reduces issuance when validator supply exceeds demand. • **100% Gas Fee Burning:** All transaction fees are permanently removed from circulation to offset new token emissions, maintaining a balance between issuance and deflationary forces. • **Automated Self-Regulation:** The protocol continuously recalibrates supply based on real-time network conditions, ensuring optimal decentralization and economic sustainability.

G.13 Supply Adjustment Mechanisms

G.13	Supply Adjustment Mechanisms	**Key Supply Adjustment Mechanisms:** 1. **Dynamic Token Emission:** SHM rewards are automatically adjusted based on validator participation, ensuring an optimal validator-to-network ratio. 2. **100% Gas Fee Burning:** All transaction fees are permanently burned, creating a deflationary pressure that offsets new token issuance. 3. **Real-Time Equilibrium Adjustments:** Supply is continuously recalibrated to balance network growth, validator incentives, and economic stability.

G.14 Token Value Protection Schemes

G.14	Token Value Protection Schemes	False

G.15 Token Value Protection Schemes Description

G.15	Token Value Protection Schemes Description	N/A, see answer under Section G.14.

G.16 Compensation Schemes

G.16	Compensation Schemes	False

G.17 Compensation Schemes Description

G.17	Compensation Schemes Description	N/A, see answer under Section G.16.

G.18 Applicable Law

G.18	Applicable Law	Any dispute arising out of or in connection with the White Paper and/or the SHM Token shall be governed exclusively by Swiss law, excluding its conflict of law rules or principles, except to the extent that such disputes are mandatorily governed by applicable law pursuant to the terms and conditions of the Trading Platform on which the SHM Token is traded within the European Union.

G.19 Competent Court

G.19	Competent Court	Any dispute, controversy, or claim arising out of, or in relation to the White Paper and/or the SHM Token shall be exclusively resolved by arbitration in accordance with the Swiss Rules of International Arbitration of the Swiss Arbitration Centre ("**Rules**") in force on the date on which the notice of arbitration is submitted in accordance with those Rules. -The number of arbitrators shall be three; -The seat of the arbitration shall be Zurich, Switzerland; -The arbitral proceedings shall be conducted in English.

		This arbitration clause shall not apply to disputes that are governed by a specific dispute resolution mechanism pursuant to the terms and conditions of the Trading Platform on which the SHM Token is offered within the European Union.

H. PART H – INFORMATION ON THE UNDERLYING TECHNOLOGY

H.1 Distributed Ledger Technology

H.1	Distributed Ledger Technology	Shardeum is a Layer 1 blockchain designed for scalability, decentralization, and security, utilizing sharded distributed ledger technology (DLT) to optimize performance. Transactions are recorded on an immutable, decentralized ledger, ensuring transparency, security, and fault tolerance.

H.2 Protocols and Technical Standards

H.2	Protocols and Technical Standards	**Ethereum Compatibility:** Shardeum is EVM-compatible, supporting existing Ethereum-based smart contracts and dApps. **Sharded Architecture:** Implements dynamic state sharding to scale horizontally while maintaining network efficiency. **Interoperability:** Uses industry-standard RPC protocols for seamless communication with wallets and applications. **Smart Contract Language:** Supports Solidity, allowing developers to deploy Ethereum-based applications with minimal modifications.

H.3 Technology Used

H.3	Technology Used	**Programming Languages:** Typescript and NodeJS, with some rust for efficient networking. **Infrastructure:** A mix of decentralized node validators and high-performance data availability layers to optimize network reliability.

H.4 Consensus Mechanism

H.4	Consensus Mechanism	The Shardeum blockchain is based on the highly efficient novel consensus mechanism "Proof-of-Quorum" ("**PoQ**"). PoQ enables instant processing of transactions without the need to group them into blocks by a leader or even a temporary leader node. In addition to PoQ, the Shardeum blockchain will be aware of Proof-of-Stake ("**PoS**") as another consensus mechanism.

H.5 Incentive Mechanisms and Applicable Fees

H.5	Incentive Mechanisms and Applicable Fees	**Node Operator Rewards** ▪ Validators and node operators earn SHM Token rewards for securing the network and processing transactions. ▪ Staking Requirement: Node operators must stake a minimum amount of SHM (e.g., 2,400 SHM per node) to participate in validation. ▪ Annual Returns: Staked SHM earns network rewards, ensuring economic incentives for long-term participation.

		Transaction Fees ▪ A fixed per-transaction fee model is targeted at <0.01 SHM Tokens per transaction (subject to network conditions). ▪ Fees are burned, following an EIP-1559-inspired deflationary model to reduce long-term token supply. **Node Hosting & Staking Costs** ▪ Node operators pay a hosting fee to cover infrastructure costs. ▪ Potential penalties (temporary/permanent eviction) apply for misbehavior, such as downtime, excessive sync time etc. **Smart Contract Deployment Fees** ▪ Developers deploying contracts on Shardeum pay a gas fee, similar to Ethereum.

H.6 Use of Distributed Ledger Technology

H.6	Use of Distributed Ledger Technology	False – The Foundation does not operate the DLT.

H.7 DLT Functionality Description

H.7	DLT Functionality Description	N/A

H.8 Audit

H.8	Audit	True

H.9 Audit Outcome

H.9	Audit Outcome	Audits of Shardeum's Core and Ancillaries systems were conducted in 2024 by independent security researchers and included a bug bounty program to identify vulnerabilities. These audits and bug bounties were conduct ahead of mainnet launch and trading. Several issues have been detected. Shardeum aims to address and resolve the identified and relevant issues before launch. More details on the known issues can be found here: https://immunefisup-port.zendesk.com/hc/en-us/articles/28112833600401-List-of-Known-Issues-for-Shardeum-Core-II-and-Shardeum-Ancillaries-II-Audit-Competitions Disclaimer: While audits and bug bounties strengthen security, they do not guarantee the absence of all vulnerabilities. Undetected issues or new exploits could still arise, and inves-tors should consider these risks. See also Part I (Information about the risks).

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

General Information	
J.1. Adverse Impacts on Climate and other Environment-Related Adverse Impacts	The Issuer of the SHM Token is providing information on principal adverse impacts on the climate and other environment-related adverse impacts of the consensus mechanism used to validate SHM Token transactions and to maintain the integrity of the distributed ledger of transactions. As the Protocol is currently operating in an incentivized testnet environment, the energy consumption estimates provided are based on live node operations with real transactions, validator participation, and network activity. While transaction volumes may scale upon mainnet launch, the current testnet conditions closely reflect expected operational behavior. Based on real-time data from the incentivized testnet, the validation of transactions in SHM Token and the maintenance of the distributed ledger are projected to result in a total estimated energy consumption of no more than ~303,840 kilowatt-hours (kWh) per calendar year under full production conditions. As the Protocol is not live at the time of the present notification, the information provided above covers a one-year basis period from the mainnet launch of the Protocol based on the anticipated number of transactions of the SHM Token. The validation of transactions in SHM Token and the maintenance of the integrity of the distributed ledger of transactions has led to a total estimated energy consumption of no more than ~303,840 kilowatt-hours (kWh) per calendar year. Even if the above estimates are forward looking statements and may thus prove to be inaccurate, total energy consumption is in any scenario not expected to exceed 500,000 kWh per year.
J.1.1. Name	Shardeum Foundation
J.1.2. Relevant Legal Entity Identifier	N/A

J.1.3 Name of the Crypto-Asset	SHM Token
J.1.4 Consensus Mechanism	The Shardeum blockchain is based on the highly efficient novel consensus mechanism "Proof-of-Quorum" ("**PoQ**"). PoQ enables instant processing of transactions without the need to group them into blocks by a leader or even a temporary leader node. In addition to PoQ, the Shardeum blockchain will be aware of Proof-of-Stake ("**PoS**") as another consensus mechanism.
J.1.5 Incentive Mechanisms and Applicable Fees	**Node Operator Rewards** • Validators and node operators earn SHM Token rewards for securing the network and processing transactions. • Staking Requirement: Node operators must stake a minimum amount of SHM (e.g., 2,400 SHM per node) to participate in validation. • Annual Returns: Staked SHM earns network rewards, ensuring economic incentives for long-term participation. **Transaction Fees** • A fixed per-transaction fee model is targeted at <0.01 SHM Token per transaction (subject to network conditions). **Node Hosting & Staking Costs** • Node operators pay a hosting fee to cover infrastructure costs. • Potential penalties (eviction) apply for misbehavior, such as downtime, excessive sync time etc. **Smart Contract Deployment Fees**

	• Developers deploying contracts on Shardeum pay a gas fee, similar to Ethereum.
J.1.6 Beginning of the Period to which the Disclosure Relates	2025-04-15
J.1.7 End of the Period to which the Disclosure Relates	2026-04-15
Mandatory Key Indicator on Energy Consumption	
J.1.8 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	Energy consumption (both market- and location-based energy use) < 500'000 kWh. **Market-based energy use:** Energy=CO_2 emissions (tCO_2e)/ Emissions factor (tCO_2e per MWh) = 5.9/0.233= 25.32 MWh = 25,320 kWh per month. **Location-based energy use:** = 10.9/0.5 = 21.80 MWh = 21,800 kWh per month. In total, ~303,840kWH per calendar year for a 1280 active node network.
Sources and Methodologies	
J.1.9 Energy Consumption Sources and Methodologies Sources and methodologies used in relation to the information reported in field S.8	The estimated energy consumption provided in J.08 has been calculated using the methodology recommended by the Crypto Carbon Ratings Institute in its December 2024 Paper, version 2.0 "Methodologies to calculate sustainability indicators for the EU Markets in Crypto-Assets (MiCA) regulation", to be found at https://carbon-ratings.com/dl/whitepaper-mica-methods-2024. This energy consumption calculation follows the CCRI MiCA methodology (2024, v2.0).