

## VTHO - VeThor Token Whitepaper

### Whitepaper under Title II, Article 4 of Regulation (EU) 2023/1114 (“MiCAR”) for the admission to trading on crypto-asset service providers platforms authorized under Article 59 of MiCAR

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01	Date of notification	19 November 2025
02	Statement in accordance with Article 6(3) of Regulation (EU) 2023/1114	This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union. The person seeking admission to trading of the crypto-asset is solely responsible for the content of this crypto-asset white paper.
03	Compliance statement in accordance with Article 6(6) of Regulation (EU) 2023/1114	This crypto-asset white paper complies with Title II of Regulation (EU) 2023/1114 and, to the best of the knowledge of the management body, the information presented in the crypto-asset white paper is fair, clear and not misleading and the crypto-asset white paper makes no omission likely to affect its import
04	Statement in accordance with Article 6(5), points (a), (b), (c) of Regulation (EU) 2023/1114	The crypto-asset referred to in this white paper may lose its value in part or in full, may not always be transferable and may not be liquid
05	Statement in accordance with Article 6(5), point (d) of Regulation (EU) 2023/1114	Not applicable.

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.
07	Warning in accordance with Article 6(7), second subparagraph of Regulation (EU) 2023/1114	<p>Warning</p> <p>This summary should be read as an introduction to the crypto-asset white paper.</p> <p>The prospective holder should base any decision to purchase this cryptoasset on the content of the crypto-asset white paper as a whole and not on the summary alone.</p> <p>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.</p> <p>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.</p>
08	Characteristics of the crypto-asset	<p>VTHO Token is a crypto-asset to be classified as “<i>crypto-assets other than asset-referenced tokens or e-money tokens</i>” under Title II of MiCAR.</p> <p>VTHO serves as the gas token of the VeChainThor blockchain. Whenever a transaction is executed on VeChainThor, the related network fee is paid in VTHO.</p> <p>Following the protocol upgrades introduced with the Hayabusa roadmap (VIP-253 and VIP-254), the mechanism for creating and distributing VTHO has been fundamentally updated in connection with a new consensus mechanism based on delegated proof of stake.</p> <p>VTHO is no longer issued at a fixed rate merely by holding the other token issued by VeChain, VET, as previously contemplated. Instead, VTHO issuance is currently dynamic and benefits only network participants who actively secure the network by staking VET as part of the validation process, either as Validators or as Delegators to a chosen Validator. Issuance is calibrated through on-chain governance to align incentives and strengthen the protocol’s cryptoeconomic security.</p> <p>Protocol rewards are shared between Validators and their Delegator pools on a 30/70% basis, and the fee-burn mechanism on VTHO used to pay gas fees remains in effect although modified as explained in Parts H.4 and H.5.</p> <p>VTHO is freely transferable and tradeable on MiCAR-compliant trading platforms, subject to the terms and policies of the relevant crypto-asset service providers.</p>

09	Information about the quality and quantity of goods or services to which the utility tokens give access and restrictions on the transferability.	Not Applicable.
10	Key information about the offer to the public or admission to trading	<p>. There is no predetermined number of VTHO Tokens to be admitted to trading. The circulating amount evolves through two protocol mechanisms: (i) dynamic issuance allocated only to VET stakers (Validators and Delegators) pursuant to VIP-254, and (ii) the burning of a portion of VTHO consumed as gas fees. Consequently, the quantity of VTHO available on third-party crypto-asset service providers (CASPs) varies over time and can be monitored on market data sources (e.g., CoinMarketCap). No fixed issuance rate applies.</p> <p>As this does not constitute an offer to the public, there are no minimum or maximum target subscription goals, no subscription fees, no discounted phases and no subscription period. Moreover, as the VTHO Tokens are already listed and traded on various third party crypto-assets service providers, there is no fixed issue price and the price for purchasing on those trading platforms depends on the market value and spread or fees applied.</p> <p>There is no placement agreement in place with third party providers offering crypto-assets placement services.</p> <p>Prospective holders are all persons interested in supporting VeChain project as described in this Whitepaper, in participating in the VeChain ecosystem by effecting transactions on the VeChainThor Blockchain.</p> <p>Eligible users may acquire VTHO via authorised CASPs, subject to each CASP's onboarding requirements and applicable law, in order to participate in the VeChainThor ecosystem by paying network fees and transferring the token on-chain.</p> <p>VTHO is already admitted to trading on several CASPs. For an indicative, non-exhaustive list of trading venues, see Part E.33.</p>
Part A - Information about the offeror or the person seeking admission to trading		
A.1	Name	VeChain Foundation San Marino S.r.l.

A.2	Legal form	limited liability company
A.3	Registered address	Strada di Paderna, 2 (47895) Domagnano, San Marino
A.4	Head office	Strada di Paderna, 2 (47895) Domagnano, San Marino
A.5	Registration Date	2021-06-07
A.6	Legal entity identifier	5299001UWKNB61VZCT67
A.7	Another identifier required pursuant to applicable national law	Not Applicable.
A.8	Contact telephone number	(+378) 0549 943763 (+39) 366 845 14 34
A.9	E-mail address	info-sanmarino@vechain.org

A.10	Response Time (Days)	Under normal circumstances, inquiries are answered within 5 days. For very specific requests, processing may take up to a maximum of 14 days.
A.11	Parent Company	Not Applicable.
A.12	Members of the Management body	Board of Directors:  Jie Zhang – President of the BoD and Legal Representative, Strada Di Paderna, 2 (47895) Domagnano, San Marino; Yang LU – Director and CEO, Strada Di Paderna, 2 (47895) Domagnano, San Marino; Renato Grottola – Director, Strada Di Paderna, 2 (47895) Domagnano, San Marino.
A.13	Business Activity	VeChain Foundation is the curator of VeChainThor Blockchain, a world-leading smart contract platform spearheading the real-world adoption of blockchain technology. VeChain’s aspiration is to multiply individual impact to unleash our collective potential for sustainability. VeChain will actively support and accelerate the engagement in sustainability efforts, leveraging (blockchain) technology to address diverse challenges.  VeChain’s main business and professional activities include technological development, consultancy in the field of information technology, database management, hosting and provisioning of application services.  The principal markets where VeChain operates include the European Union and other jurisdictions with robust regulatory frameworks for crypto-assets.
A.14	Parent Company Business Activity	Not Applicable.
A.15	Newly Established	False
A.16	Financial condition for the past three years	VeChain Foundation San Marino S.R.L. was established on June 7, 2021. Upon incorporation, VET tokens were contributed by shareholders as a reserve. VeChain utilizes these assets to support ongoing operational costs. This robust asset reserve provides a strong foundation for future expansion.  The financial statements for the past three years offer a detailed account of VeChain’s financial performance. These statements have been duly filed with

		<p>the San Marino authority. Notably, there have been no unusual or infrequent events materially affecting VeChain’s operations.</p> <p>Non-financial KPIs include number of unique addresses and transaction volume. VeChain has seen an increase in the number of unique addresses, along with a corresponding rise in transaction volumes, reflecting the increasing utilization of the VeChainThor Blockchain.</p>
A.17	Financial condition since registration	Reference to A.16.

**Part D- Information about the crypto-asset project**

D.1	Crypto-asset project name	VeChain
D.2	Crypto-assets name	VeThor
D.3	Abbreviation	VTHO
D.4	Crypto-asset project description	<p>VTHO Tokens is crypto-asset to be classified as “<i>crypto-assets other than asset-referenced tokens or e-money tokens</i>” under Title II of MiCAR. VTHO Tokens are conceived to serve as the settlement medium of transaction fees (“gas fees”) for executing transactions on the VeChainThor Blockchain and can also be freely transferred within the network..</p> <p>Following the implementation of the Hayabusa upgrades, VeChainThor has transitioned from a Proof of Authority consensus mechanism to a Delegated Proof of Stake (DPoS) model, introducing a new Validator/Delegator framework (VIP-253). Under this model, Validators secure the network and produce blocks by staking a minimum collateral of VET tokens, while Delegators — i.e. individual VET holders — can allocate their stake to Validators in exchange for a share of the protocol rewards. This shift enhances</p>

		<p>decentralization, accountability and crypto economic security, and reduces reliance on trusted entities.</p> <p>In parallel, the issuance of VTHO Tokens has evolved from a static daily generation rate to a dynamic mechanism (VIP-254). VTHO is now generated as a function of the amount of VET tokens staked and participation in securing the network. This change aligns incentives by rewarding only active participants, reduces inflationary pressure, and strengthens the overall economic sustainability of the VeChainThor ecosystem.</p>
D.5	Details of all natural or legal persons involved in the implementation of the crypto-asset project	<p>VeChain Team:  Yang Lu, CEO; Antonio Senatore, CTO; Bin Qian, Senior Blockchain Engineer; Tony Li, Senior Full Stack Engineer; Pedro Gomes, Senior Blockchain Engineer; Darren Kelly, Blockchain Developer; Paolo Galli, Full Stack Engineer; Clayton Neal, Head of QA; Leszek Lorek, Senior QA Engineer; Kostas Apostolopoulos, Head of NodeOps; Adam Koyuncu, DevOps Engineer; Hamza Abdullahi, DevOps Engineer; David Oyeku, DevOps Engineer; Neil Brett, Director of Protocol.</p> <p>Third Party:  Electi Consulting, Nikolaou Building, Block B, Office 202, Ayias Zonis &amp; Thessalonikis Street Limassol, 3026, Cyprus.</p>
D.6	Utility Token Classification	False.
D.7	Key Features of Goods/Services for Utility Token Projects	Not applicable.
D.8	Plans for the token	<p>VeChain started with the aspiration to become a platform of choice for blockchain based business applications offering concrete economic, environmental, and societal value.</p> <p>In 2018, VeChain released whitepaper 1.0, launched the VeChainThor Blockchain, incorporated basic requirements for enterprise adoption.</p> <p>In 2019, VeChain expanded upon commitment to enable mass blockchain adoption by established businesses, with the long-term goal of creating value and solving real world economic problems.</p> <p>In 2023, VeChain issued whitepaper 3.0, with the aspiration to multiply individual impact to unleash our collective potential for sustainability and define the blockchain biosphere for sustainability.</p> <p>In 2024, VeChain launch the VeBetterDAO ecosystem to promote collective sustainability actions.</p> <p>In 2025, VeChain achieved a major milestone with the launch of the Hayabusa Devnet, introducing a transition from Proof of Authority (PoA) to Delegated Proof of Stake (DPoS) consensus (VIP-253) and a dynamic VTHO issuance model (VIP-254). These upgrades reinforced decentralization,</p>

		<p>enhanced protocol rewards, and aligned tokenomics with long-term economic sustainability.</p> <p>Looking ahead to 2026, VeChain plans to deliver the Interstellar Phase of its roadmap, including the integration of JSON-RPC to enable seamless cross-chain interoperability and expand the scope of applications that can be built on VeChainThor, further consolidating its role as a leading infrastructure for Web3 and sustainability-driven innovation.</p>
D.9	Resource Allocation	<p>VeChain has secured financial and operational resources to ensure its successful development and implementation. Sufficient funding has been allocated. Additionally, the project benefits from 60 dedicated team members, including experts in key areas like blockchain development, risk, compliance and legal, marketing, etc.</p> <p>Specific teams have been strengthened to manage the transition to the Delegated Proof of Stake (DPoS) consensus and to support the design, testing, and implementation of the new staking and reward distribution mechanics.</p> <p>Infrastructure, including cloud services, blockchain nodes, partnerships, has also been established to support the project's growth and functionality. These resources ensure the project is well-positioned to achieve its objectives as outlined in this white paper.</p>
D.10	Planned Use of Collected Funds or Crypto-Assets	Not applicable
<b>Part E: Information about the offer to the public of crypto-assets or their admission to trading</b>		
E.1	Public Offering or Admission to trading	ATTR.
E.2	Reasons for Public Offer or Admission to trading	<p>By seeking admission to trading of VTHO Tokens, VeChain aims at allowing any person - who had not the chance to enter VeChain ecosystem at the time of the first initial coin offering dated 2017 – to acquire interests in the VeChain project and actively participate in its tokenization initiative. Admitting VTHO Tokens to trading has the purpose of giving new stakeholders the chance to purchase the tokens and enter the project or existing stakeholders to increase or liquidate their interests in VeChain.</p> <p>Being admitted to trading on several trading platforms enhances VTHO Tokens' liquidity, increasing the number of potential acquirers and the venues where holders are able to sell the VTHO Tokens. In addition, being admitted</p>

		<p>to trading on several platforms helps the Vechain ecosystem to gain trust and credibility in the market, to be recognized amongst a larger size of potential investors.</p> <p>Finally, admission to trading on different platforms benefits potential investors in terms of price formation and discovery, allowing VTHO Tokens to establish its market value based on market bid / ask orders and to reduce volatility.</p>
E.3	Fundraising Target	Not Applicable.
E.4	Minimum Subscription Goals	Not Applicable.
E.5	Maximum Subscription Goal	Not Applicable.
E.6	Oversubscription Acceptance	False
E.7	Oversubscription Allocation	Not Applicable.
E.8	Issue Price	Not Applicable.
E.9	Official currency or any other crypto- assets determining the issue price	Not Applicable.

E.10	Subscription fee	Not Applicable.
E.11	Offer Price Determination Method	Not Applicable.
E.12	Total Number of Offered/Traded Crypto- Assets	Not Applicable.
E.13	Targeted Holders	ALL
E.14	Holder restrictions	<p>The VTHO token is not being offered to the public. Instead, it is intended to be admitted for trading on one or more MiCAR-compliant Crypto-Asset Service Providers (CASPs) within the European Union. Holders of the VeThor token must comply with all applicable regulations and requirements established by the relevant CASP(s) to be eligible to purchase and hold the token.</p> <p>These requirements will include, but are not limited to:</p> <ul style="list-style-type: none"> <li>- KYC/AML Compliance: Holders will be required to undergo KYC/AML verification as mandated by the relevant CASP(s) and applicable regulations.</li> <li>- Eligibility Criteria: The relevant CASP(s) will have specific eligibility criteria for their users, which holders of the token must meet.</li> <li>- Geographic Restrictions: The relevant CASP(s) will enforce geographic restrictions in accordance with applicable laws and regulations.</li> <li>- Other Requirements: Holders must adhere to any other terms and conditions, trading rules, or other requirements established by the relevant CASP(s).</li> </ul> <p>While the project itself does not impose specific holder restrictions beyond regulatory compliance, prospective holders are advised that they will need to comply with the terms and conditions and policies of any CASP through which they acquire or hold VTHO tokens. VeChain makes no representations or warranties regarding a user's eligibility to trade on any CASP. Eligibility is solely determined by the respective CASP(s).</p>

E.15	Reimbursement Notice	Not Applicable.
E.16	Refund Mechanism	This Whitepaper does not relate to a public offering of crypto-assets but to their admission to trading. Therefore, rights of reimbursement, withdrawal or refund do not apply.
E.17	Refund Timeline	This Whitepaper does not relate to a public offering of crypto-assets but to their admission to trading. Therefore, rights of reimbursement, withdrawal or refund do not apply.
E.18	Offer Phases	Not Applicable.
E.19	Early Purchase Discount	Not Applicable.
E.20	Time-limited offer	False
E.21	Subscription period beginning	Not Applicable.
E.22	Subscription period end	Not Applicable.

E.23	Safeguarding Arrangements for Offered Funds/Crypto-Assets	The withdrawal period does not apply to tokens admitted to trading as per Article 13, paragraph 4, of MICAR in that VTHO Tokens are already listed on trading platforms. There is no time-limited offer for VTHO Tokens.
E.24	Payment Methods for Crypto-Asset Purchase	Holders are able to trade VTHO Tokens on third party crypto-assets service providers which will be the solely entities entitled to decide the methods of payment to purchase or sell VTHO Tokens (i.e. versus fiat currencies or other crypto-assets).
E.25	Value Transfer Methods for Reimbursement	VTHO Tokens holders are not entitled to be reimbursed by the issuer.
E.26	Right of Withdrawal	The withdrawal period does not apply to tokens admitted to trading as per Article 13, paragraph 4, of MICAR in that VTHO Tokens are already listed on trading platforms.
E.27	Transfer of Purchased Crypto-Assets	Not Applicable.
E.28	Transfer Time Schedule	Not Applicable.
E.29	Purchaser's Technical Requirements	<p>For purchasers to hold VTHO Tokens in the form of a self-hosted custody, they must be provided with a crypto wallet compatible with VeChainThor Blockchain. A list of compatible wallets can be found in this link: <a href="https://vechain.org/solutions/">https://vechain.org/solutions/</a>.</p> <p>Unlike VET, VTHO Tokens are not staked directly to secure the network but are instead consumed as gas fees for executing transactions and smart contracts. Consequently, purchasers must ensure that their chosen wallet solution supports the storage, transfer, and burning mechanics of VTHO. In practice, compatible wallets must be able to:</p> <ul style="list-style-type: none"> <li>display both VET and VTHO balances, since VTHO is generated dynamically by holding or staking VET;</li> </ul>

		<ul style="list-style-type: none"> <li>authorize transactions that consume VTHO as gas, ensuring proper deduction and recording of fees on the blockchain;</li> <li>interact with CASPs and decentralized applications (dApps) requiring VTHO as a utility token for the execution of operations.</li> </ul> <p>Where VTHO is acquired or used through a CASP, integrated custodial wallets may be required. In such cases, additional identity verification or compliance procedures may apply, in line with MiCAR and AML/CTF requirements.</p> <p>Holders intending to generate VTHO passively must meet the technical requirements applicable to VET staking or delegation, since only actively staked VET contributes to VTHO issuance under the Delegated Proof of Stake (DPoS) model (VIP-253). This means that while VTHO itself has no independent staking function, its generation depends on the collateralization and delegation of VET to validators.</p> <p>It remains the responsibility of each holder to ensure that their wallet solution complies with VeChainThor standards and, where relevant, CASP policies. Failure to use a compatible or compliant wallet may result in the inability to store, transfer, or consume VTHO Tokens for network operations.</p>
E.30	Crypto-asset service provider (CASP) name	There is no placement agreement in place with any CASP.
E.31	CASP identifier	Not Applicable.
E.32	Placement form	Not Applicable.
E.33	Trading Platforms name	<ul style="list-style-type: none"> <li>- Coinbase</li> <li>- Crypto.com</li> <li>- Revolut</li> <li>- Kucoin</li> <li>- Bitget</li> <li>- BitMart</li> <li>- Binance</li> </ul> <p>This is a non-exhausted list. VeChain intends to maintain these listings as long as doing so remains compliant with applicable laws and will continue to seek admission to trading for VTHO Tokens across future MiCAR-compliant trading platforms.</p>

E.34	Trading Platforms Market Identifier Code (MIC)	Not Applicable.
E.35	Trading Platforms Access	Trading platforms where VTHO Tokens are sought to be admitted to trading have their own web addresses where user are able to register to benefit from their services. In respect of EU regulated trading platforms, prior identification of users is required according to applicable AML / CFT regulation
E.36	Involved costs	Costs for accessing third party crypto-asset service providers platforms entirely depend on their commercial decisions and possibly subject to increases in the future
E.37	Offer Expenses	Not applicable.
E.38	Conflicts of Interest	No conflicts have been identified as of today in relation to the issuance of VTHO Tokens.
E.39	Applicable law	Irish Law
E.40	Competent court	Courts of Ireland

Part F - Information about the crypto-assets		
F.1	Crypto-Asset Type	VTHO Token is a crypto-asset to be classified as “ <i>crypto-assets other than asset-referenced tokens or e-money tokens</i> ” under Title II of MiCAR.
F.2	Crypto-Asset Functionality	<p>VTHO Tokens are freely transferable between users subject to payment of transaction fees on VeChainThor Blockchain. Transactions on VeChainThor Blockchain are paid, in terms of fees, also through VTHO Tokens.</p> <p>Following the Hayabusa upgrades in 2025, the generation of VTHO no longer follows a fixed, VET holding-based issuance model. Pursuant to VeChain Improvement Proposal 254 (VIP-254), VTHO issuance is dynamic and benefits network participants who actively secure the network by staking VET - either as Validators or as Delegators to a chosen Validator within the Delegated Proof of Stake (DPoS) framework introduced by VeChain Improvement Proposal 253 (VIP-253).</p> <p>Validators, each backed by a minimum collateral of 25 million VET, are responsible for block production and network security. Delegators may stake their VET with a Validator of choice and, in return, share in the protocol rewards. The distribution of rewards follows a 30/70% split between Validators and their Delegator pools.</p> <p>This staking-based dynamic issuance model reduces overall VTHO inflation, enhances decentralization, and reinforces the deflationary mechanism whereby 100% of the VTHO consumed as gas is burnt and permanently removed from circulation. This deflationary model ensures that tokenomics remain aligned with active participation, economic security, and the long-term sustainability of the VeChainThor ecosystem.</p>
F.3	Planned Application of Functionalities	Already in place, please refer to F.2.
F.4	Type of white paper	OTHR

F.5	The type of submission	MODI
F.6	Crypto-Asset Characteristics	<p>VTHO Tokens is a crypto-asset to be classified as “<i>crypto-assets other than asset-referenced tokens or e-money tokens</i>” under Title II of MiCAR.</p> <p>VTHO Tokens are automatically generated by VeChainThor Blockchain pursuant to the dynamic issuance mechanism introduced with VeChain Improvement Proposal 254 (VIP-254). Unlike under the previous fixed-rate model, the quantity of VTHO generated is no longer determined by a predetermined velocity but instead varies in direct proportion to the VET actively staked within the network. Holders of VET who choose not to stake their tokens do not receive VTHO rewards.</p> <p>There is no fixed maximum supply of VTHO. The effective issuance rate adapts to the level of network participation and the aggregate amount of VET committed to staking, thereby creating an economic model that reduces inflationary pressure while reinforcing the security of the blockchain. The deflationary effect of the fee-burn mechanism - under which 100% of the VTHO consumed as gas is permanently removed from circulation - applies. VTHO Tokens’ holders are not granted with voting rights nor with decision making powers. In the event of dissolution and liquidation of VeChain, VTHO Tokens holders will not be entitled to the distribution of any of liquidation proceeds or VeChain’s assets.</p>
F.7	Commercial name or trading name	VeThor Token (VTHO)
F.8	Website of the issuer	<a href="https://vechain.org/">https://vechain.org/</a>
F.9	Starting date of offer to the public or admission to trading	VTHO Token has been admitted to trading in trading platforms listed in E.33.
F.10	Publication date	To-Be-Updated

F.11	Any other services provided by the issuer	No
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	NN418T24K
F.15	Functionally Fungible Group Digital Token Identifier, where available	Not Applicable.
F.16	Voluntary data flag	Mandatory
F.17	Personal data flag	False
F.18	LEI eligibility	Eligible

F.19	Home Member State	Ireland
F.20	Host Member States	Austria, Belgium, Bulgaria, Croatia, Republic of Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden

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

G.1	Purchaser Rights and Obligations	<p> Holders of VTHO Tokens do not acquire proprietary, governance or profit-participation rights vis-à-vis the issuer or the VeChain Foundation. The Tokens are not shares, debt instruments or financial instruments under Union law, and do not grant voting powers, dividend entitlements or redemption rights.</p> <p> The sole functional entitlement embedded in the Tokens lies in their role as the unit of account for transaction execution on the VeChainThor Blockchain. VTHO is the indispensable medium for the settlement of transaction fees and the operation of smart contracts, thereby constituting the operational fuel of the network.</p> <p> As a result of the Hayabusa upgrade and the implementation of VeChain Improvement Proposals 253 and 254, the generation of VTHO is no longer linked to the mere passive holding of VET Tokens. Only VET holders who actively stake their tokens within the Delegated Proof of Stake (DPoS) consensus framework participate in the issuance of VTHO according to the new model. Validators - subject to a minimum holding threshold of 25 million VET - are entrusted with block production and network security, while Delegators may allocate their VET to Validators and, in return, share in protocol rewards according to the 30/70% distribution mechanism.</p>
G.2	Exercise of Rights and obligations	<p> Given the absence of governance or financial entitlements, VTHO Tokens do not confer to their holders enforceable rights against the issuer. The sole “obligation” that arises from holding or using VTHO lies in its technical function as a consumable asset necessary for transacting and deploying or operating smart contracts on the VeChainThor Blockchain.</p> <p> The effective exercise of this functionality requires that token holders either: (i) spend VTHO directly when submitting transactions to the network; or (ii) indirectly contribute to network security and block production by staking VET under the Delegated Proof of Stake mechanism, thereby participating in the accrual of newly issued VTHO.</p>

		<p>Delegators are classified according to tiered system called Node NFTs (the evolution of the former X-Nodes and Economic Nodes), which continue to grant differentiated reward weights and community recognition. These Node NFTs, by staking their VET in the context of the validation process and receiving a Delegation NFT to proof their participation to the validation process, are entitled to receive rewards and are linked to predefined staking thresholds and capped supply, ensuring scarcity and incentivization.</p> <p>Specifically:</p> <ul style="list-style-type: none"> <li>• X Node NFTs (MjolnirX, ThunderX, StrengthX, VeThorX) require higher staking commitments (from 600,000 VET to 15,600,000 VET), with reward weights ranging from 2.0 to 5.0. Their supply is capped at historical issuance levels (e.g. 147 MjolnirX, 181 ThunderX, 848 StrengthX, 791 VeThorX), with no new minting.</li> <li>• Economic Node NFTs (Mjolnir, Thunder, Strength, Flash, Lightning, Dawn) require lower staking commitments (from 10,000 VET to 15,000,000 VET), with reward weights ranging from 1.0 to 3.5. Their supply is dynamically capped and tracked on-chain, with maximum thresholds indicated in the official node registry (e.g. up to 100 Mjolnir, 300 Thunder, 2,500 Strength, 25,000 Flash, 100,000 Lightning, 500,000 Dawn).</li> </ul>
G.3	Conditions for modifications of rights and obligations	<p>VeChain reserves the right to amend these rights and obligations from time to time and will inform its customers of such changes through amendments of this White Paper and through any other channel of communication, including VeChain Website.</p> <p>The functional characteristics of VTHO Tokens are inherently tied to the VeChainThor protocol and may evolve in line with network upgrades approved through the governance framework of the VeChain ecosystem.</p> <p>In particular, the implementation of VeChain Improvement Proposals (VIPs), such as VIP-253 (Delegated Proof of Stake consensus) and VIP-254 (dynamic VTHO issuance), has already demonstrated that protocol-level changes can affect both the mechanisms of token creation and the distribution of rewards.</p> <p>Any such modification is executed on-chain through deterministic, transparent procedures and becomes effective for all token holders simultaneously, thereby ensuring equal treatment and preventing discretionary or selective alterations by the issuer. As provided by Article 12 of MiCAR regulation, any significant new factor, any material mistake or any material inaccuracy that would be capable of affecting the assessment of VTHO Tokens will be described in a modified version of this Whitepaper and notified to the competent authorities and published on VeChain Website</p>
G.4	Future Public Offers	Not applicable.

G.5	Issuer Retained Crypto-Assets	None.
G.6	Utility Token Classification	False
G.7	Key Features of Goods/Services of Utility Tokens	Not Applicable.
G.8	Utility Tokens Redemption	Not Applicable.
G.9	Non-Trading request	VTHO token is currently available for trading in compliant exchanges as indicated in E.33.
G.10	Crypto-Assets purchase or sale modalities	Not Applicable.
G.11	Crypto-Assets Transfer Restrictions	No restrictions apply to the transfer of VTHO Tokens.
G.12	Supply Adjustment Protocols	False

G.13	Supply Adjustment Mechanisms	Not Applicable.
G.14	Token Value Protection Schemes	False.
G.15	Token Value Protection Schemes Description	Not Applicable.
G.16	Compensation Schemes	False.
G.17	Compensation Schemes Description	Not Applicable.
G.18	Applicable law	Irish Law
G.19	Competent court	Courts of Ireland

Part H – information on the underlying technology

H.1	Distributed ledger technology	<p>VTHO token is issued on the VeChainThor Blockchain, which is a public, decentralized blockchain that ensures security and transparency through its robust and proven network.</p> <p>VTHO is the gas token used to pay transaction fees and is accounted for at the protocol level. Network participants can read the ledger and submit transactions (subject to fees in VTHO), while state changes are recorded immutably on-chain and verified by the consensus mechanism described in Section H.4.</p>
H.2	Protocols and technical standards	<p>VeChain utilizes industry-standard protocols and technical standards to ensure securing holding, storing and transferring of the token.</p> <p>For holding and storing VTHO Tokens, VeChain supports the following industry standards for wallet creation: BIP-32 (Hierarchical Deterministic Wallets), BIP-39 (Mnemonic Seed Phrase) and BIP-44 (Multi-account Hierarchy for Deterministic Wallets). Wallet technology relies on cryptographic algorithms for the custody of crypto assets, involving the generation and management of public and private keys. Public keys allow users to receive tokens, while private keys are used to authorize transactions and access the tokens. Secure storage solutions include software wallets, hardware wallets, multi-signature accounts, and accounts managed by multi-party computing.</p> <p>Following the Hayabusa upgrade and the introduction of the Delegated Proof of Stake (DPoS) consensus, compatible wallets also enable users to delegate their VET holdings to Validators, thus actively contributing to the economic security of the network while participating in staking rewards.</p> <p>The transfer of VTHO tokens is facilitated through the underlying VeChainThor blockchain protocols, which employ advanced cryptographic techniques to secure transactions, which are used so that integrity and immutability can be ensured. Transactions are validated and recorded directly on the blockchain, providing a transparent and tamper-proof ledger of all token transfers.</p>
H.3	Technology Used	<p>The VeChainThor blockchain currently operates under a Delegated Proof of Stake ("DPoS") consensus model, as introduced with the Hayabusa upgrade.</p> <p>This represents an evolution from the former Proof of Authority ("PoA") mechanism and is designed to enhance decentralization, security, and user participation.</p> <p>Under DPoS, Validators – required to maintain a minimum stake of 25 million VET – are responsible for producing blocks and securing the network. Delegators, consisting of individual VET holders, may delegate their stake to Validators, thereby contributing to the network’s economic security and decentralization while receiving a proportional share of block rewards. This structure fosters competition, accountability, and operational excellence</p>

		<p>among Validators, while enabling a broad user base to participate in network consensus in a compliant and transparent way.</p> <p>At the cryptographic level, VeChain continues to use several industry standard cryptographic functions such as Elliptic Curve Digital Signature Algorithm (ECDSA) for the creation and verification of digital signatures. The hash function Blake2b-256 is used to secure data storage, address generation and signature verification.</p>
H.4	Consensus Mechanism	<p>The VeChainThor blockchain operates under a Delegated Proof of Stake (DPoS) consensus mechanism, introduced with the Hayabusa upgrade (VIP-253). This transition represents a fundamental evolution from the previous Proof of Authority (PoA) model, aiming to deliver a more decentralized, resilient, and economically aligned network architecture.</p> <p>Under DPoS, two categories of participants jointly secure the blockchain:</p> <ul style="list-style-type: none"> <li>• Validators, each required to maintain a minimum collateral of 25 million VET, are responsible for producing blocks, validating transactions, and maintaining the network’s integrity.</li> <li>• Delegators, consisting of individual VET holders, may delegate their tokens to a chosen Validator. In doing so, they contribute to the blockchain’s economic security while receiving a proportional share of rewards generated through block production.</li> </ul> <p>Validator selection is governed by a stake-weighted mechanism: the greater the combined VET stake of a Validator and its Delegators, the higher the probability of adjudicating and producing the next block. This mechanism incentivizes performance, reputation, and accountability, as Validators must maintain operational excellence and community trust to attract and retain Delegations.</p> <p>The DPoS consensus introduces several important benefits:</p> <ul style="list-style-type: none"> <li>• Increased decentralization: the Validator pool is no longer restricted by a static approval process but is instead determined dynamically through market-driven staking. This broadens participation and reduces reliance on trusted parties.</li> <li>• Enhanced cryptoeconomic security: requiring large VET stakes to influence consensus raises the cost of malicious behavior, thereby improving the overall resilience of the blockchain against attacks.</li> <li>• Validator competition and accountability: competition for delegations fosters a self-regulating ecosystem where poorly performing Validators risk losing their stake and community support. This introduces a layer of gamification that drives operational excellence.</li> </ul> <p>The introduction of DPoS is also closely tied to VIP-254, which redefined the tokenomics of the VeChainThor blockchain. VTHO generation is no longer static but dynamically linked to active participation in staking: only Validators and Delegators that contribute to securing the network are entitled to receive new VTHO. This innovation not only aligns incentives between token holders and network security, but also strengthens the deflationary</p>

		<p>pressure on VTHO supply, ensuring sustainable transaction costs and long-term economic efficiency.</p> <p>Through these changes, VeChainThor combines the efficiency of delegated consensus with broad user participation, robust security, and economic alignment. This consensus framework marks the beginning of a new era for the protocol, paving the way for enhanced decentralization, stronger security guarantees, and deeper stakeholder engagement.</p>
H.5	Incentive Mechanisms and Applicable Fees	<p>All transactions carried out on the VeChainThor blockchain are subject to transaction fees denominated in VTHO. These fees are central to the protocol's economic model and underpin both the sustainability of network operations and the security of consensus.</p> <p>With the transition to Delegated Proof of Stake (DPoS) under VIP-253, incentive distribution has been restructured. Validators, who maintain at least 25 million VET as collateral, produce blocks and validate transactions. In return, they receive protocol rewards that are shared with their Delegators.</p> <p>The standard reward split allocates 30% to Validators and 70% to their Delegators, reflecting the contribution of both categories of participants to network security. Participants are also allowed to pay additional amounts of VTHO to Validators to prioritize the transactions over the others ("tip").</p> <p>Simultaneously, VIP-254 introduced dynamic VTHO issuance, linking token generation directly to staked VET. Only VET actively staked by Validators and Delegators contributes to new VTHO creation, ensuring that rewards accrue exclusively to those securing the network. This change significantly reduces overall VTHO inflation and strengthens the deflationary effect of the token burn mechanism.</p> <p>For every transaction, 100% of VTHO used as gas fees is burned and permanently destroyed, introducing continuous deflationary pressure into the system. This mechanism is designed to balance network incentives with sustainable transaction costs, while ensuring long-term economic resilience.</p> <p>The redesigned incentive framework, by combining staking-based VTHO generation, tip, fee burning, and validator–delegator reward sharing, creates a transparent, equitable, and security-enhancing system. It further incentivizes responsible Validator behavior and broad community participation, aligning the interests of all stakeholders in the growth and sustainability of the VeChainThor ecosystem.</p>
H.6	Use of Distributed Ledger Technology	<p>VTHO is fully issued, transferred, and stored on the VeChainThor Blockchain, a public and decentralized distributed ledger technology (DLT). The blockchain records all transactions in an immutable, transparent, and cryptographically secured manner, ensuring that transfers of VET Tokens cannot be altered retroactively. The reliance on DLT guarantees the integrity and auditability of the system, eliminating the need for intermediaries and enabling direct peer-to-peer value transfers.</p> <p>Following the Hayabusa upgrade and the implementation of VIP-253, the VeChainThor network has transitioned to a staking-based consensus that enhances decentralization, accountability, and economic security.</p>

		<p>Token holders now retain the ability to participate directly in network security and governance either by operating as Validators (subject to a minimum collateral of 25 million VET) or by acting as Delegators, entrusting their stake to Validators of their choice. This mechanism ensures broader stakeholder involvement in consensus, while reinforcing validator competition, transparency, and long-term sustainability.</p> <p>Accordingly, the use of DLT in VeChain goes far beyond simple transaction recording. VeChainThor provides a versatile infrastructure that supports:</p> <ul style="list-style-type: none"> <li>• the execution of smart contracts and deployment of decentralized applications (dApps);</li> <li>• supply chain traceability and provenance solutions, enabling enterprises to monitor products and verify data integrity across global value chains;</li> <li>• sustainability applications, such as carbon footprint tracking, ESG reporting, and tokenization of environmental assets;</li> <li>• enterprise-grade services that require high throughput, predictable costs, and low environmental impact.</li> </ul> <p>The design of VeChainThor ensures low energy consumption compared to proof-of-work blockchains, maintaining a minimal ecological footprint while guaranteeing secure and cost-effective transactions. The predictable fee model, reinforced by the dynamic VTHO issuance under VIP-254, makes the platform particularly suitable for large-scale business adoption, ensuring stability, scalability, and regulatory compliance.</p>
H.7	DLT Functionality Description	<p>The VeChainThor Blockchain has been designed as an enterprise-grade distributed ledger technology, combining decentralization, transparency, security, and scalability in a manner consistent with regulatory compliance and sustainability objectives.</p> <p><b>Decentralization:</b> under the new Delegated Proof of Stake (DPoS) model introduced by VIP-253, the validator set is no longer limited to a fixed number of Authority Masternodes. Instead, Validators are dynamically elected based on the quantity of VET staked, while Delegators contribute by assigning their tokens to Validators of their choice. This system broadens the base of network participants, ensuring that governance and security are not concentrated in a closed group but evolve through open and competitive mechanisms. The interplay between Validators and Delegators creates a self-regulating governance structure, fostering accountability and resilience</p> <p><b>Transparency and Immutability:</b> transactions on the VeChainThor blockchain are transparent and recorded on a public, immutable ledger accessible to all users.</p> <p><b>Security:</b> security is ensured by combining robust cryptographic standards (including ECDSA for digital signatures and Blake2b-256 for hashing) with the economic safeguards of the DPoS model. Validators must maintain substantial collateral in VET, aligning their financial incentives with honest behavior and network stability. Delegators retain the ability to withdraw or reallocate their stake if Validators act improperly, creating a dynamic accountability mechanism. In addition, the randomization features introduced</p>

		<p>under PoA 2.0 (VRF-based randomness and the Finality with One Bit gadget) remain embedded in the architecture, complementing DPoS by ensuring unpredictability and irreversible finality of transactions.</p> <p>Scalability and Efficiency: the Hayabusa upgrade has significantly improved the scalability of VeChainThor. By shifting from static to dynamic VTHO issuance under VIP-254, transaction costs are aligned with actual network usage while preventing fee volatility. The DPoS mechanism sustains high throughput and low latency, allowing VeChainThor to process thousands of transactions per second with predictable costs. This makes the blockchain suitable for enterprise-scale applications such as supply chain tokenization, cross-border trade, and the management of digital assets.</p> <p>Governance and Sustainability: DPoS embeds governance directly into the protocol: validator performance and reliability determine their long-term viability, as Delegators continuously reassess where to allocate their stake. This market-driven governance fosters competition, transparency, and responsiveness to community needs. Moreover, VeChainThor maintains a low environmental footprint by design, as consensus does not rely on energy-intensive computations. This aligns the network with ESG (environmental, social, and governance) principles, supporting its role as a sustainable infrastructure for global enterprises.</p> <p>Through this combination of features, VeChainThor demonstrates how DLT can serve as a secure, transparent, and sustainable backbone for next-generation digital ecosystems, ensuring both technological efficiency and compliance with emerging regulatory frameworks such as MiCAR.</p>
H.8	Audit	Yes
H.9	Audit outcome	<p>Slow Mist Security Team conducted smart contract security audit and concluded that the contract does not have Overflow, The Race Conditions issue. The audit has shown no critical, high, medium and low issues. Information on the outcomes of the audit can be found at <a href="https://github.com/slowmist/Knowledge-Base/blob/master/open-report/VeChainThorNodeToken-Smart-Contract-Security-Audit-Report.md">https://github.com/slowmist/Knowledge-Base/blob/master/open-report/VeChainThorNodeToken-Smart-Contract-Security-Audit-Report.md</a>.</p>
Part I — Information on risks		
I.1	Offer-Related Risks	<p>VTHO Tokens will be admitted to trading on third party crypto-assets service providers. This entails a number of trading risks specified below:</p> <p>Price fluctuations: the price of VTHO Tokens on third-party crypto-asset service providers and their liquidity may not develop as expected. In particular, market trading volumes on these platforms may increase or decrease unexpectedly, resulting in sudden price swings, reduced liquidity, or price drops. In addition, VTHO Tokens are generated automatically by VeChainThor Blockchain this resulting in a potential increase in the supply which may impact on the market price of VTHO Tokens on the trading platforms they are listed on.</p>

		<p>Supply dynamics under VIP-254: following the Hayabusa upgrade, VTHO issuance is dynamic and linked to staked VET rather than passively accruing to all VET holders. Changes in the aggregate staking rate, Validator/Delegator participation and network activity can increase or decrease effective VTHO issuance over time, which may affect circulating supply and market pricing. In addition, protocol fee consumption (burn) permanently destroys a portion of VTHO used as gas, introducing deflationary pressure that may also influence price formation.</p> <p>Staking-related distribution flows: rewards earned by Validators and Delegators are paid in VTHO; subsequent sales, if any, by market participants may create additional supply on secondary markets from time to time. Reward levels are variable and not guaranteed and depend on network conditions and Validator policies. Access, custody and withdrawal limits: CASPs may impose KYC/AML requirements, trading limits, withdrawal delays or maintenance windows that can affect the timing of deposits/withdrawals or the availability of self-custody. Not all CASPs support on-chain features equally (e.g., staking, specific wallet formats), which may impact a holder’s ability to transfer or use VTHO as expected.</p> <p>Delisting / Suspension from trading: third-party crypto-asset service providers or the issuer may decide, at their discretion, to delist VTHO Tokens in total or in part, resulting in reduced market liquidity and difficulties in selling the tokens. Additionally, certain third-party crypto-asset service providers on which the issuer intends to list VTHO Tokens may decide not to apply for a MiCAR license, be denied a MiCAR license, or lose the license at a later stage. This could result in a potential temporary or definitive closure of trading of VTHO Tokens on those platforms.</p> <p>Jurisdictional limitations: third-party crypto-asset service providers may also decide to limit the trading of VTHO Tokens or products having VTHO Tokens as underlying assets for certain customers due to jurisdictional restrictions.</p>
I.2	Issuer-Related Risks	<p>VeChain, the issuer of VTHO Tokens, is subject to several risks that could impact the stability, reliability and perception of VTHO Tokens. These risks include, but are not limited to, the following:</p> <p>Regulatory Risks: the crypto-assets regulatory landscape is constantly evolving in many jurisdictions including EU. Compliance with varying regulatory requirements across different jurisdictions can be complex and may lead to operational challenges or legal liabilities if not properly managed.</p> <p>Governance and Protocol Risks. Decisions adopted through VeChain Improvement Proposals (VIPs) or other governance processes may materially impact the protocol’s economic model and operational parameters. While designed to enhance security and efficiency, such modifications could unpredictably alter the expectations of users and token holders, for example in relation to fees, rewards distribution, or token issuance.</p> <p>Consensus-Specific Risks (VIP-253 – Delegated Proof of Stake).</p> <ul style="list-style-type: none"> <li>○ <i>Concentration of stake and validator dominance: the Delegated Proof of Stake (DPoS) model relies on Validators maintaining a minimum collateral of 25 million VET and on Delegators entrusting their stake to Validators. Excessive concentration of stake with a</i></li> </ul>

		<p>limited number of Validators may reduce effective decentralization and raise risks of influence capture.</p> <ul style="list-style-type: none"> <li>○ <i>Validator misconduct and collusion</i>: validators could theoretically collude, mismanage delegated stake or act opportunistically in the distribution of rewards to Delegators, creating uncertainty in returns and undermining confidence in the fairness of the network.</li> <li>○ <i>Churn and continuity</i>: the dynamic entry and exit of Validators and fluctuations in delegated stake may temporarily affect throughput, latency, and network stability.</li> </ul> <p>Tokenomics Risks (VIP-254 – Dynamic VTHO Issuance): the issuance of VTHO is no longer based on a fixed rate but is dynamically linked to the level of staked VET and the activity of the network. This may result in reduced predictability of supply growth. Depending on staking participation and transaction demand, issuance may be lower or higher than historical benchmarks, while the burn mechanism for transaction fees simultaneously exerts deflationary pressure. This interplay can create supply-demand imbalances and affect VTHO market value.</p> <p>Operational Risks: VeChain’s operations rely on robust internal processes, adequate staffing and quality assurance. Failures in these processes, including human error, system malfunction or weaknesses in internal controls, could negatively affect protocol maintenance and the transferability of tokens.</p> <p>Third-party Risks: VeChain relies on third parties to provide services that are important to VeChain Thor Blockchain and VTHO Tokens. Potential disruptions, cyber incidents, or contractual non-compliance issues may arise with such third parties.</p> <p>Operational Risks: the efficient functioning of VeChain relies on robust internal processes and systems. Any failures or disruptions in these processes, including human errors, system failures, or inadequate internal controls, could adversely affect the issuance and transferability of VTHO Tokens.</p> <p>Technological Risks: The technology underlying VTHO Tokens, including smart contracts and VeChainThor Blockchain, is subject to vulnerabilities, cyber threats or potential delays in transactions' processing. Although VeChainThor Blockchain and its consensus mechanism is designed to reduce to the maximum extent possible the risk of malicious attacks being successful, there is always a risk that this may happen.</p> <p>Financial Risks: any financial instability of VeChain, such as liquidity issues or insolvency, shall not impact the VTHO Tokens directly but in any case, affect their value in consequence of the possible discontinuation of the project.</p> <p>Reputational Risks: any negative publicity, whether due to regulatory actions, security breaches, or operational failures, could harm the company’s reputation and reduce confidence among token holders and the broader market.</p> <p>Compliance Risks: Ensuring ongoing compliance with any and all applicable legislation is essential for legal and operational integrity. Failure to</p>
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		<p>effectively implement and monitor compliance procedures could result in legal penalties and damage to VeChain’s reputation.</p> <p>Environmental, Social, and Governance (ESG) Risks: regulatory attention to ESG factors is constantly increasing worldwide. Even though VeChain takes into careful account ESG compliance and the Proof of Authority consensus mechanism governing VeChainThor Blockchain significantly reduces environmental impact, any failure to adhere to sustainable and ethical practices could impact the reputation and operations of VeChain, including the operations effected on VeChainThor Blockchain. governance practices.</p>
I.3	Crypto-Assets-related Risks	<p>VTHO Tokens entails a number of risks attached, namely:</p> <p>Redemption: The issuer does not guarantee the right of redemption of VTHO Tokens versus fiat currency or other crypto-assets. Potential delisting or limitations in trading on third party crypto-assets service providers may increase holding periods and expose holders to price fluctuations. Moreover, VTHO Tokens may not be immediately payable.</p> <p>Price Volatility and Market Risks: VTHO Tokens are freely traded on third-party platforms, where price formation depends on supply and demand. The combination of dynamic issuance and the burn mechanism may lead to fluctuations: higher network activity can increase burning rates and create scarcity, while variations in staking participation directly impact the level of new VTHO issued. These dynamics may produce rapid and unpredictable price movements.</p> <p>Inflationary/Deflationary Pressures: the dynamic issuance introduced by VIP-254 ties VTHO generation to the level of VET staked, rather than to a fixed daily rate. This introduces both inflationary risks (if staking participation is high and issuance grows faster than demand) and deflationary risks (if burning through transaction fees exceeds issuance levels). Either outcome may destabilize expectations of token holders.</p> <p>Dependence on VET Staking: as VTHO Tokens are generated exclusively through staking of VET Tokens, their supply is inherently dependent on the level of VET collateral committed to Validators. Reduced staking participation could result in limited issuance and constrained liquidity of VTHO, while excessive staking could lead to oversupply.</p> <p>Financial Returns: VTHO tokens do not guarantee financial returns and are subject to price fluctuations. VeChain’s strategic decision may affect the generation velocity and quantity of VTHO Tokens to be assigned to VET Token holder, so impacting on the VET Token holders' positions possibly inflating or deflating the total supply.</p> <p>Loss of Access to Tokens: Secure management of private keys is essential for accessing cryptocurrencies. Users should therefore rely on proven wallets and custody services to minimize the risk of loss.</p> <p>Trading and Liquidity Risks: third-party platforms may at their discretion suspend, delist or restrict VTHO trading, including in the event of regulatory changes or licensing issues under MiCAR. This may extend holding periods, limit exit opportunities and reduce liquidity.</p>

I.4	Project Implementation-Related Risks	<p>The issuer is a leading ICT player in the blockchain ecosystem, having developed a proprietary public blockchain named VeChainThor Blockchain which has been used since 2017 to support blockchain-based business applications offering real economic and social value. The issuer considers existing the following risks related to the project:</p> <p>Adoption Risks: The continued success of the VeChainThor Blockchain depends on its sustained adoption by businesses and users. While the protocol has historically attracted enterprise use cases, there is no assurance that such adoption will continue at the same pace. A lack of new projects or reduced activity from existing partners may adversely affect the ecosystem and undermine the utility of VTHO Tokens.</p> <p>Transition to Delegated Proof of Stake (DPoS): The migration from Proof of Authority to Delegated Proof of Stake under VIP-253 introduces a new governance and operational framework. Although designed to increase decentralization and resilience, this transition may also expose the network to risks of validator concentration, governance disputes, or insufficient participation by delegators. Such risks could impact on the effectiveness of the consensus mechanism and the credibility of the blockchain.</p> <p>Ecosystem Development Risks: VeChain’s strategic roadmap (including the Renaissance and Interstellar phases) involves continuous protocol upgrades, interoperability layers, and governance innovations. Implementation delays, technical setbacks, or lack of community engagement may slow down the development and diminish the competitiveness of the network.</p> <p>Business Continuity Risks: Should the issuer or its partners encounter financial or operational distress, the ability to maintain the infrastructure, provide developer support, or market the platform could be impaired. In extreme cases, such challenges could force the issuer to scale back or discontinue certain aspects of the project, thereby affecting the sustainability of VTHO Tokens.</p>
I.5	Technology-Related Risks	<p>VeChainThor blockchain risks: VTHO Tokens are transacted on VeChainThor Blockchain only, which – similarly to other blockchains - may be subject to technical vulnerabilities and be exposed to attacks (<i>i.e.</i> for example 51% attack and creation of untrue forks) that could potentially undermine the transactions being processed or alter the history of the transactions.</p> <p>Consensus Mechanism Risks: with the transition from Proof of Authority to Delegated Proof of Stake (DPoS), the security of the network depends on both Validators and Delegators. While DPoS enhances decentralization and economic security, it may also concentrate influence in Validators with larger VET stakes or create governance frictions between Delegators and Validators. Insufficient participation or collusion among Validators could undermine the fairness and effectiveness of block production.</p> <p>Smart contract risks: smart contracts are commonly used on VeChainThor Blockchain. Similarly to other blockchains, smart contracts may be exposed to technical vulnerabilities and exploitations that could lead to losses for holders.</p>

		<p>Settlement finality and irrevocability transactions: VTHO Tokens transactions may be irreversible. Holders sending VTHO Tokens to non-existing addresses, unwilled or wrong addresses or addresses of an entity not in possession of the private keys may lose in whole or part VTHO Tokens and be unable to reverse the transaction or recover VTHO Tokens. Similarly, transactions of VET Tokens, which are effected using VTHO Tokens to pay transaction costs, are irreversible. Erroneous transactions imply the spending of VTHO Tokens which cannot be assigned back once used.</p> <p>System continuity: in some limited case, when no validator node is active, the VeChainThor Blockchain may experiment an halt in processing transactions.</p> <p>Cybersecurity and Attack Risks: as a public blockchain, VeChainThor is a potential target for cyberattacks, including Distributed Denial of Service (DDoS), validator collusion, or sophisticated exploits targeting the DPoS process. While the economic cost of attacking the network is significantly increased by staking-based consensus, risks cannot be fully eliminated.</p> <p>Unanticipated Risks: blockchain technology and tokens are a relatively new and untested technology. 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.</p>
I.6	Mitigation measures	<p>VeChain has set up a professional team to identify, assess, monitor and mitigate risks associated with its business activities, operations, and blockchain technologies.</p> <p>Regulatory Risks: continuous monitoring of regulatory changes and maintaining a robust team to ensure compliance across EU and other jurisdictions.</p> <p>Third-party Risks: third party management process is in place to ensure specific clauses in agreements with third party providers aiming at minimizing the risk of sudden discontinuation of services.</p> <p>Operational Risks: comprehensive training programs for employees, and the implementation of advanced internal control systems.</p> <p>Technological Risks: regular security audits, continuous monitoring for vulnerabilities, and employing state-of-the-art cybersecurity measures.</p> <p>The transition to Delegated Proof of Stake (DPoS) strengthens economic security by requiring Validators to stake a minimum of 25M VET and distributing rewards with Delegators. This model enhances decentralisation and reduces the risk of validator collusion or malicious control. Dynamic VTHO issuance further aligns incentives by rewarding only active stakers, mitigating inflationary pressures.</p> <p>Cybersecurity Risks: the protocol employs advanced cryptographic standards (ECDSA, Blake2b-256) and continuously monitors for vulnerabilities. Validator competition under DPoS incentivises operational excellence, reducing risks of downtime or misconduct.</p> <p>Financial Risks: maintaining a robust reserve management strategy and professional financial management to ensure transparency and stability.</p>

		<p>Reputational Risks: proactive public relations strategies and effective communication channels to manage and mitigate any negative publicity.</p> <p>Compliance Risks: regular compliance reviews and stringent internal compliance protocols.</p> <p>Environmental, Social, and Governance (ESG) Risks: Implementing sustainable business practices, ensuring transparency in governance, and actively participating in social responsibility initiatives. Proof of Authority consensus mechanism governing the validation process on VeChainThor Blockchain has a very low environmental impact in that it does not require computational effort on the part of validating nodes.</p> <p>Lack of or insufficient businesses utilizing VeChainThor Blockchain: VeChain destines a significant number of resources to advertisement and marketing activities, by also sponsoring major sport events. This should allow VeChain to maintain high visibility on the market.</p> <p>Through this multi-layered approach, VeChain aims to minimise systemic, operational, and technological risks while maintaining resilience, transparency, and sustainability across its blockchain ecosystem.</p>
<p>J — Information on the sustainability indicators in relation to adverse impact on the climate and other environment-related adverse impacts</p>		
<p>J-1</p>	<p>Adverse impacts on climate and other environment-related adverse impacts</p>	<p>VeChain monitors and discloses the environmental impact of the VeChainThor blockchain and the associated VTHO tokenomics. The following data reflects the network’s energy consumption and environmental footprint prior to the full transition to the Delegated Proof of Stake (DPoS) consensus model under VIP-253:</p> <p>Energy</p> <ul style="list-style-type: none"> <li>- Energy consumption 23,329.95 kWh</li> <li>- Renewable energy consumption 26.6%</li> <li>- Energy intensity 0.000023 kWh</li> </ul> <p>GHG emissions</p> <ul style="list-style-type: none"> <li>- Scope 1 – Controlled 0</li> <li>- Scope 2 – Purchased 9.97t</li> <li>- GHG intensity: 0.0000096161 kg</li> </ul> <p>Waste production</p> <ul style="list-style-type: none"> <li>- Generation of waste electrical and electronic equipment (WEEE): 0.286t</li> <li>- Non-recycled WEEE ratio: 58.75%</li> <li>- Generation of hazardous waste: 0.00014t</li> </ul> <p>Natural resources</p> <ul style="list-style-type: none"> <li>- Impact of the use of equipment on natural resources: 142.96 kiloliters water usage</li> </ul>

