

Rayls MiCAR White Paper



IN ACCORDANCE WITH
TITLE II OF REGULATION (EU) 2023/1114

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00. Table of content: true

01. Date of Notification: 2025-12-11

Regulatory Disclosures

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 of the European Parliament and of the Council 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):

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):

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

06. Statement in accordance with Article 6(5), points (e) and (f):

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:

This summary should be read as an introduction to the crypto-asset white paper. The prospective holder should base any decision to purchase this crypto-asset on the content of the crypto-asset white paper as a whole and not on the summary alone. The offer to the public of this crypto-asset does not constitute an offer or solicitation to purchase financial instruments and any such offer or solicitation can be made only by means of a prospectus or other offer documents pursuant to the applicable national law. This crypto-asset white paper does not constitute a prospectus as referred to in Regulation (EU) 2017/1129 of the European Parliament and of the Council (36) or any other offer document pursuant to Union or national law.

08. Characteristics of the Crypto-Asset Holders of the RLS token have the right to use it within the Rayls ecosystem for staking, paying network fees, and participating in protocol governance. The token does not represent ownership, debt, or profit-sharing rights in the issuing company. Holders are obligated to comply with the network's terms of use and applicable identity verification requirements. Governance rights are exercised through on-chain voting using a compatible digital wallet after tokens are staked, while access and payment rights are used automatically by interacting with the protocol's smart contracts. These rights and obligations may be modified through governance proposals approved by a token-holder vote, or by the issuer to maintain legal and regulatory compliance.

09. Utility Token Summary The RLS token is a utility token granting access to services across the Rayls financial-assets network, with a total supply of 10 billion tokens. Its primary functions include governance participation, validator staking, transaction fee settlement, and access to privacy-preserving institutional tools such as Privacy Nodes and Private Networks. The token also enables the use of Rayls SDKs, APIs, and other developer infrastructure. Transferability of RLS tokens may be temporarily restricted by vesting or lock-up periods for team and investor allocations, and all transfers are subject to compliance with applicable sanctions and KYC/AML controls.

10. Key Information About the Offer to the Public or Admission to Trading No public offer of RLS tokens is being made in connection with this disclosure. This action pertains to an admission to trading and is not associated with any fundraising activity. Accordingly, there is no subscription period, issue price, fundraising target, or subscription fee applicable. No crypto-asset service provider has been appointed to place the token. Admission to trading is being sought for the Kraken trading platform to enable secondary market trading and provide liquidity for the RLS utility token.

A. Information about Offeror or Person Seeking Admission to Trading

A.1 Name: RAYLSFUSION LTD

A.2 Legal Form: 6EH6

A.3 Registered address:

Jayla Place, 2nd Floor, Road Town, Tortola, VG1110, VG

VG

No subdivision available

A.4 Head office:

Jayla Place, 2nd Floor, Road Town, Tortola, VG1110, VG

VG

No subdivision available

A.5 Registration Date: 2024-06-17

A.7 Another identifier required pursuant to applicable national law: 2151146

A.8 Contact telephone number: N/A

A.9 E-mail address: info@rayls.com

A.10 Response Time (Days): 7

A.11 Parent Company: RAYLS FOUNDATION

A.12 Members of the Management body:

Name	Business Address	Function
Carlos Henrique Lopes	c/o International Corporation Services Ltd., Harbour Place, 2nd Floor, 103 South Church Street, P.O. Box 472, George Town, Grand Cayman KY1- 1106, Cayman Islands	Director of Rayls Foundation Rayls Fusion Ltd
Yaro Pshenitsyn	c/o International Corporation Services Ltd., Harbour Place,	Director of Rayls Foundation Rayls Fusion Ltd

Name	Business Address	Function
	2nd Floor, 103 South Church Street, P.O. Box 472, George Town, Grand Cayman KY1- 1106, Cayman Islands	

A.13 Business Activity:

Development and operation of blockchain infrastructure for financial institutions, providing privacy-preserving and compliant distributed-ledger technology for asset tokenisation, settlement, and interbank connectivity.

A.14 Parent Company Business Activity:

Rayls Foundation, Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands

A.15 Newly Established: false

A.17 Financial condition since registration:

RAYLSFUSION LTD is a newly established entity in the early stages of development. The company has not yet generated substantial revenue or incurred significant expenses, however, there is a proof-of-usage dashboard available showing (at the time of writing) approximately \$100,000 per month in revenue generated from clients in USD so far: <https://paymentsdashboard.rayls.com/>.

A brief summary of RAYLSFUSION's financial performance at the time of writing is as follows:

- Total assets: \$1,480,000.00
- Liabilities: \$0
- Total liabilities and equity: \$1,480,000.00

B. Information about Issuer (If 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: N/A

B.3 Legal Form: N/A

B.4 Registered address:

N/A

B.5 Head office:

N/A

B.6 Registration Date: N/A

B.7 Legal entity identifier: N/A

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

B.9 Parent Company: N/A

B.10 Members of the Management body:

Name	Business Address	Function
N/A	N/A	N/A

B.11 Business Activity: N/A

B.12 Parent Company Business Activity: N/A

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

C.1 Name: N/A

C.2 Legal Form: N/A

C.3 Registered address: N/A

C.4 Head office: N/A

C.5 Registration Date: N/A

C.6 Legal entity identifier: N/A

C.7 Another identifier required pursuant to applicable national law: N/A

C.8 Parent Company: N/A

C.9 Reason for crypto-asset white paper preparation: N/A

C.10 Members of the Management body:

Name	Business Address	Function
N/A	N/A	N/A

C.11 Operator business activity: N/A

C.12 Parent company business activity: N/A

C.13 Other persons drawing up the crypto-asset white paper: N/A

C.14 Reason for drawing the white paper by persons referred to in Article 6(1): N/A

D. Information about Crypto-Asset Project

D.1 Crypto-asset project name: Rayls

D.2 Crypto-assets name: Rayls

D.3 Abbreviation: RLS

D.4 Crypto-asset project description:

Rayls is a financial-assets blockchain ecosystem connecting traditional finance (TradFi) and decentralised finance (DeFi) through privacy-preserving, compliant and high-performance infrastructure. Its architecture of Privacy Nodes, Private Networks and a Public Chain enables financial institutions to tokenise assets privately, settle transactions securely and access global DeFi liquidity in a regulated manner. The RLS utility token powers governance, staking, validator participation and fee settlement across the ecosystem.

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

Type	Name	Business Address	Domicile
Other	RAYLSFUSION LTD	2nd Floor Jayla Place, Road Town, Tortola, British Virgin Islands	VG
Other	RAYLS FOUNDATION	Maples Corporate Services Limited, PO Box 309, Ugland House, Grand Cayman, KY1-1104, Cayman Islands	KY

D.6 Utility Token Classification: true

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

- High-performance EVM-compatible Layer 1 blockchain (Rayls Public Chain)
- Institutional Privacy Nodes for private asset issuance and settlement
- Private Network Hubs for interbank transactions
- Rayls Enygma privacy protocol with zero-knowledge and post-quantum cryptography
- USD-pegged gas fees (via a stablecoin) and MEV-resistant architecture

- On-chain identity services for KYC/KYB compliance and selective regulatory disclosure, also known as LayeredID.

D.8 Plans for the token:

Past Milestones:

The RLS token will serve as the core utility asset within the Rayls ecosystem, enabling staking, governance, fee settlement, and validator compensation. Following its Token Generation Event in Q4 2025, RLS will be listed on authorised EEA trading platforms and used for network operations, institutional transactions, and automatic settlement for network services.

Future Milestones:

Future plans include expanding RLS utility to support multi-asset fee payments, governance of protocol upgrades, and operation of the deflationary burn mechanism.

D.9 Resource Allocation:

Rayls has been under active development since 2023 with a team of over 20 engineers, cryptographers and product experts based in Europe and Latin America. Funding has been secured from venture capital investors including ParaFi Capital, Framework Ventures, Valor Capital Group and Borderless Capital. Significant infrastructure resources are dedicated to testnets, security audits and validator incentive programs leading up to mainnet launch.

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

Funds will be used for (1) protocol and infrastructure development; (2) security audits and validator compensation; (3) ecosystem grants and developer incentives; (4) legal and regulatory compliance within the EEA; (5) community and market development initiatives; (6) Implementation of deflationary protocol mechanics.

E. Information on Offer to Public of Crypto-Assets or their Admission to Trading

E.1 Public Offering or Admission to trading:

ATTR

E.2 Reasons for Public Offer or Admission to trading:

To enable secondary market trading and liquidity for the RLS utility token, which powers governance, staking, validator participation, and protocol fee settlement within the Rayls ecosystem. Admission to trading supports ecosystem transparency and accessibility for institutional and retail participants across the EEA.

E.12 Total Number of Offered/Traded Crypto- Assets: 10000000000

E.13 Targeted Holders:

ALL

E.14 Holder restrictions:

RLS tokens are not available in jurisdictions subject to international sanctions. KYC/AML verification is required on participating platforms prior to purchase or trading, as our compliance standards must be met before proceeding.

E.24 Payment Methods for Crypto-Asset Purchase:

Payment may be made in EUR, USDC, or other supported fiat-linked stablecoins via approved trading platforms or exchanges at the prevailing market rate.

E.25 Value Transfer Methods for Reimbursement:

As RLS is a utility token, there is no entitlement to reimbursement by the issuer. In the event of refunds or order cancellations on participating platforms, reimbursement will occur via the same payment method used for purchase.

E.27 Transfer of Purchased Crypto-Assets:

RLS tokens are transferred on-chain to the purchaser's designated EVM-compatible wallet address via the trading platform's custody or settlement mechanism upon completion of the transaction and KYC verification.

E.29 Purchaser's Technical Requirements:

Purchasers must have an EVM-compatible wallet address (e.g., MetaMask, Rabby, or WalletConnect-compatible client) capable of receiving ERC-20 tokens on the Rayls Public Chain. Internet access and completion of KYC/AML verification on the participating platform are required.

E.33 Trading Platforms name: kraken

E.34 Trading Platforms Market Identifier Code (MIC): Kraken: PGSL

E.35 Trading Platforms Access:

Investors may access the trading platforms via their official websites or mobile applications, subject to account registration, identity verification, and acceptance of platform terms. Example: <https://www.kraken.com>.

E.36 Involved costs:

Transaction and trading fees are determined by each platform. Rayls does not charge any separate fee for trading access.

E.37 Offer Expenses: N/A

E.38 Conflicts of Interest:

No material conflicts of interest exist between RAYLSFUSION LTD, the Rayls Foundation, and the trading platforms. All participating entities operate at arm's length and under independent governance and compliance oversight.

E.39 Applicable law:

The offering and admission to trading of the RLS utility token are governed by the laws of the European Union as implemented under Regulation (EU) 2023/1114 (MiCA), and by the national laws of the competent authority in the issuer's notified home Member State.

E.40 Competent court:

The competent court with regard to the offering is the High Court of Ireland, as Ireland is the issuer's notified home Member State for MiCA purposes. Any disputes arising in connection with the offer or admission to trading of the RLS token shall be governed by Irish law and subject to the exclusive jurisdiction of the Irish courts.

F. Information about Crypto-Assets

F.1 Crypto-Asset Type:

RLS tokens are considered as crypto-assets other than EMTs and ARTs under Regulation (EU) 2023/1114. RLS tokens are fungible utility tokens providing governance, staking, and protocol utility within the Rayls financial-assets chain ecosystem.

F.2 Crypto-Asset Functionality:

The RLS token powers the Rayls ecosystem across its Privacy Nodes, Private Networks, and Public Chain. It provides governance voting rights, validator staking, fee settlement for institutional network usage, and access to protocol features. RLS does not grant equity, profit, or redemption rights.

F.3 Planned Application of Functionalities:

Core token functions (governance, staking, validator participation, and fee settlement) will be available at mainnet launch (Q1 2026), with ongoing feature expansion as outlined in the Rayls roadmap.

F.4 Type of white paper:

OTHR

F.5 The type of submission:

NEWT

F.6 Crypto-Asset Characteristics:

- Token name: Rayls Token
- Ticker: RLS
- Blockchain: Rayls Public Chain (EVM-compatible L1)
- Total supply: 10 billion RLS (fixed)
- Type: ERC-20-compatible utility token
- Functions: staking, governance, protocol fees, validator compensation
- Issue price: market-determined at TGE
- Emission schedule: subject to four-year vesting for contributors and investors
- Stablecoin pairing: a USD-pegged gas token

F.7 Commercial name or trading name: Rayls

F.8 Website of the issuer: <https://www.rayls.com/>

F.9 Starting date of offer to the public or admission to trading: 2025-12-01

F.10 Publication date: 2025-12-22

F.11 Any other services provided by the issuer:

Development and operation of blockchain infrastructure for financial institutions, including Privacy Nodes, Private Networks, and the Rayls Public Chain; provision of SDKs, APIs, and on-chain identity and privacy protocol services (Rayls Enygma and LayeredID).

F.12 Language or languages of the white paper: English

F.13 Digital Token Identifier Code used to uniquely identify the crypto-asset or each of the several crypto assets to which the white paper relates, where available: RLS

F.14 Functionally Fungible Group Digital Token Identifier, where available: N/A

F.15 Voluntary data flag: true

F.16 Personal data flag: false

F.17 LEI eligibility: true

F.18 Home Member State:

IE

F.19 Host Member States:

AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GR, HR, HU, IS, IT, LI, LT, LU, LV, MT, NL, NO, PL, PT, RO, SE, SI, SK

G. Information on Rights and Obligations Attached to Crypto-Assets

G.1 Purchaser Rights and Obligations:

Holders of the RLS token have the right to use the token within the Rayls ecosystem for staking, paying network fees, participating in protocol governance, and accessing ecosystem features. RLS does not represent equity, debt, profit-sharing, or ownership rights in RAYLSFUSION LTD or any affiliate. Holders must comply with the network's terms of use and applicable KYC/AML requirements.

G.2 Exercise of Rights and Obligations:

Governance rights are exercised through on-chain voting using EVM-compatible wallets once tokens are staked or delegated. Access and payment rights are exercised automatically through smart-contract interaction on the Rayls Public Chain. All exercises of rights are subject to compliance with the protocol's technical rules and eligibility requirements.

G.3 Conditions for Modifications of Rights and Obligations:

Rights and obligations may be modified only through governance proposals approved by RLS token-holder vote and executed via on-chain governance mechanisms. Changes to regulatory or legal requirements may also require reasonable adjustments by the issuer to maintain compliance with MiCA or other applicable law.

G.4 Future Public Offers:

There are no confirmed future public offerings. Any subsequent distribution of RLS will occur only through authorised exchanges or ecosystem incentive programmes in compliance with MiCA disclosure requirements.

G.5 Number of Issuer's Retained Crypto-Assets: 2000000000

G.6 Utility Token Classification: true

G.7 Key Features of Goods and Services of Utility Tokens:

Holders of the RLS token gain access to services across the Rayls financial-assets network, including governance participation, validator staking, transaction fee settlement, and access to privacy-preserving institutional tools such as Privacy Nodes and Private Networks. RLS also enables the use of Rayls SDKs, APIs, and developer infrastructure, granting token holders the ability to deploy, interact with, and manage compliant digital-asset applications on the Rayls Public Chain.

G.8 Utility Tokens Redemption:

RLS tokens are redeemed on-chain by using them to access and pay for services within the Rayls ecosystem. This includes transaction fee payments, staking for validator

participation, governance voting, and access to Privacy Nodes, Private Networks, and developer APIs. Redemption occurs automatically through Rayls smart contracts when a user interacts with these services; no off-chain or manual redemption process is required.

G.9 Non-Trading Request: true

G.11 Crypto-Assets Transfer Restrictions:

RLS tokens are transferable on the Rayls Public Chain, Ethereum, and other EVM-compatible blockchains, subject to compliance with applicable sanctions, KYC/AML requirements, and anti-fraud controls. Transfers may be temporarily restricted during vesting or lock-up periods for team and investor allocations, or in the event of network maintenance or governance-approved security measures. The Rayls team will deploy and maintain an official bridge between the Rayls Public Chain and Ethereum, enabling secure cross-chain transfers and periodic state-root commitments. However, RaylsFusion Ltd makes no guarantees or representations regarding the security, reliability, or continued operation of any third-party bridges or interoperability contracts that independent developers may deploy to connect RLS to other EVM chains. Use of such third-party bridges is at the holder's own risk. Gas prices and transaction fees for transfers may vary across networks depending on market conditions.

G.12 Supply Adjustment Protocols: true

G.13 Supply Adjustment Mechanisms:

The Rayls protocol incorporates an automatic deflationary mechanism designed to align network usage with token scarcity. For every transaction executed on both the Rayls Public Chain and private chains, 50% of the RLS transaction fees received by the system are automatically burned via smart contract execution. This process permanently removes these tokens from the total supply.

The remaining 50% of fees are autonomously routed to the Rayls Network Security Pool to compensate validators and providers for securing the network and to support ecosystem. This mechanism is non-discretionary, programmatic, and scales directly with network activity. Once the total RLS supply reduces to less than 70% of the original fixed supply (10 billion RLS), a governance vote by token holders will determine whether to maintain or adjust the percentage of fees burned. This feature functions solely as a supply adjustment protocol and does not constitute a redemption guarantee, price support, or capital protection scheme.

G.14 Token Value Protection Schemes: false

G.16 Compensation Schemes: false

G.18 Applicable Law:

- Regulation (EU) 2023/1114 (MiCA)

- Regulation (EU) 2016/679 (GDPR)
- Directive (EU) 2015/849 (AMLD V – anti-money-laundering)
- Applicable national implementing legislation of Ireland as the issuer's home Member State.

G.19 Competent Court:

The competent court is the High Court of Ireland, which shall have exclusive jurisdiction over any dispute arising in connection with the issuance, offer, or trading of the RLS token.

H. Information on Underlying Technology

H.1 Distributed Ledger Technology:

The Rayls ecosystem operates on a unified distributed-ledger architecture, starting with Hyperledger Besu, but moving towards a modified Reth execution client to deliver institutional-grade performance, privacy, and composability. The same technology stack underpins three interconnected layers — Rayls Privacy Nodes, Rayls Private Networks, and the Rayls Public Chain — forming a cohesive, multi-tier ecosystem that links traditional financial institutions with public DeFi markets.

- Each Privacy Node is an independent, high-performance EVM chain run by a single institution using a centralised Proof of Authority (QBFT) consensus. It provides zero-gas, fiat-denominated settlement and full custody of client data for confidential, high-volume tokenisation and internal transfers.
- Multiple Privacy Nodes can interconnect through a Private Network Hub, operated under a decentralised PoA QBFT consensus. This enables inter-institution settlement and governance with auditability, selective disclosure, and compliance alignment.
- The Rayls Public Chain is an EVM-compatible Layer 1 built on the same Reth-based engine, using a Proof of Staked Authority (PoSA) configuration that evolves toward the proprietary Rayls Axyl consensus for sub-second deterministic finality and throughput exceeding 250 000 TPS. Gas fees are fixed in USD and paid via a stablecoin, ensuring predictable costs.

H.2 Protocols and Technical Standards:

- EVM-compatible L1 built on a modified Reth execution client.
- Current consensus: QBFT; upgrade path to Axyl (based on QBFT) for sub-second finality and very high TPS.
- Token standards supported: ERC-20 / ERC-721 / ERC-1155.
- USD-pegged gas via a stablecoin with premium/priority fee lane design.
- Enygma privacy protocol (ZK proofs, Pedersen commitments, post-quantum AKE, etc.).
- Periodic state-root commitments to Ethereum to inherit censorship-resistance/economic security.

H.3 Technology Used:

- Institutional Privacy Nodes (single-institution chains) and Private Networks (hub-and-spoke) for private issuance/settlement; the Public Chain connects them to DeFi.

- Gasless operation in private layers with fees accounted off-gas and later settled in RLS on the Public Chain.
- Reference SDKs/APIs/libraries for developers; key-management integrations include HSM/MPC.

H.4 Consensus Mechanism:

- Suite-wide today: QBFT.
- Privacy Node: centralised PoA QBFT.
- Private Network Hub: decentralised PoA QBFT.
- Public Chain: decentralised QBFT operated by validators under PoSA; roadmap upgrade to Axyl (based on QBFT) in 2026.

H.5 Incentive Mechanisms and Applicable Fees:

- Validators must stake RLS; compensation for validation services is funded by protocol economics with slashing for dishonesty.
- Fees: Public Chain gas fixed to USD via a stablecoin; private layers charge fiat-denominated fees that are settled in RLS on the Public Chain; premium lanes for priority.
- Deflationary mechanism: a portion of protocol fees are automatically burned to permanently reduce supply.

H.6 Use of Distributed Ledger Technology: false

H.8 Audit: false

I. Information on Risks

I.1 Offer-Related Risks:

Market liquidity for RLS may initially be limited, resulting in significant price volatility. Admission to trading on third-party platforms exposes holders to operational and regulatory risks beyond the issuer's control. Trading venues could experience outages, cyberattacks (e.g. DDoS or data corruption), or delisting events, which may restrict holders' ability to buy, sell, or transfer RLS. Additionally, changes to MiCA implementation timelines or national regulatory interpretations could temporarily affect trading availability. The issuer does not guarantee continuous secondary-market liquidity or ongoing platform access.

I.2 Issuer-Related Risks:

RaylsFusion Ltd, as the issuer, is subject to several issuer-specific risks that may affect its operations or the stability of RLS tokens:

- Regulatory compliance risk: evolving EU and global frameworks could impose new obligations or limitations.
- Operational risk: dependence on complex systems and partners introduces potential disruptions or failures.
- Financial risk: variations in cash flow, exchange rates, or market conditions could affect the company's financial position and ability to fund ecosystem development.
- Legal and reputational risk: adverse rulings, enforcement actions, or association with third parties could harm Rayls' credibility and the perceived integrity of RLS.
- Key personnel dependency: Rayls' continued success depends on a small team of core engineers and governance members with specialist expertise in distributed systems and cryptography. Loss of key individuals could delay or impact network progress.

I.3 Crypto-Assets-Related Risks:

The RLS token is a utility token designed solely for use within the Rayls ecosystem. It does not represent ownership, profit-sharing, or redemption rights. Holders face several inherent crypto-asset-related risks, including:

- Market and Liquidity Risk: RLS may experience extreme price volatility, particularly during its early trading phases. Limited liquidity on trading venues could make it difficult to buy or sell tokens without impacting market price.
- Smart-Contract and Protocol Risk: Errors or vulnerabilities in smart contracts or the Reth-based execution layer could result in the loss, freezing, or unintended

transfer of tokens. Exploitation of contract logic or governance mechanisms could compromise token balances.

- **Validator and Consensus Risk:** Misbehaviour, collusion, or failure of validators operating the QBFT or PoSA consensus mechanisms could delay transaction finality or lead to network forks, affecting token usability and value.
- **Custody and Private-Key Risk:** Control of RLS tokens depends on secure management of private keys. Loss, theft, or compromise of private keys or wallets results in irreversible loss of access to tokens.
- **Cybersecurity and Exploit Risk:** Despite advanced security measures, blockchain systems remain vulnerable to attacks such as 51 % attacks, Sybil attacks, phishing, or DDoS incidents, any of which could disrupt trading or lead to financial loss.
- **Regulatory Classification Risk:** Future regulatory reinterpretation of the RLS token under EU or national law could affect its tradability or impose additional compliance obligations on holders or trading venues.
- **Third-Party Platform Risk:** Trading and custody depend on external exchanges and wallet providers, which may suffer security breaches, operational failures, or insolvency. Users could lose access to their RLS holdings in such circumstances.
- **Irrecoverability Risk:** Transactions on the Rayls Public Chain are irreversible once confirmed. Mistaken transfers or incorrect addresses cannot be reversed or recovered.

I.4 Project Implementation-Related Risks:

The success of the Rayls network depends on the timely and coordinated delivery of several complex components. Delays, design flaws, or resource constraints could adversely impact network deployment, token utility, or ecosystem adoption. Key implementation risks include:

- **Mainnet Deployment Risk:** Delays in completing the Rayls Public Chain mainnet or integrating Privacy Nodes and Private Networks may postpone token functionality, staking, or governance participation.
- **Validator Onboarding and Security Risk:** Insufficient or delayed participation by institutional validators may undermine decentralisation and network stability. Misconfigured or concentrated validator clusters could increase the risk of consensus disruption or collusion.
- **Infrastructure Dependency Risk:** The project relies on a distributed infrastructure layer operated by third-party hosting, custody, and API service providers. Failures, security breaches, or insolvency of these partners could temporarily affect network operations.

- **Software Development and Governance Risk:** Bugs in the Reth execution client, governance smart contracts, or node software may lead to service interruptions or require urgent upgrades. Governance delays in approving protocol changes could compound recovery time.
- **Regulatory and Licensing Risk:** Changes in EU or Member State implementation of MiCA or related financial-market laws could delay or restrict launch timelines, particularly for EEA-regulated trading venues.
- **Market Adoption and Ecosystem Risk:** Institutional and developer uptake depends on the perceived reliability and compliance of the Rayls network. Slow adoption or negative market sentiment could limit transaction volumes, validator compensation, or token demand.
- **Resource and Funding Risk:** Unexpected cost overruns, extended development timelines, or failure to secure additional investment could slow delivery of roadmap milestones.
- **External Event Risk:** Force majeure events (e.g., major cyberattacks, hardware shortages, or geopolitical instability) could materially affect infrastructure continuity and rollout schedules.

I.5 Technology-Related Risks:

The Rayls network depends on a sophisticated distributed-ledger architecture combining custom execution clients, consensus mechanisms, and cryptographic components. As with any blockchain-based infrastructure, the technology involves certain inherent risks that could affect security, performance, or long-term viability:

- **Execution-Client Risk:** The Rayls Public Chain and Privacy Networks are powered by a modified Reth execution client. Undiscovered bugs, configuration errors, or performance bottlenecks in this codebase could lead to transaction failures, network outages, or vulnerabilities exploitable by malicious actors.
- **Consensus Failure or Fork Risk:** Rayls utilises a hybrid QBFT and PoSA consensus model with an upgrade path to Axyl for sub-second finality. Software bugs, validator misbehaviour, or network desynchronisation could trigger forks, double-spends, or loss of consensus, reducing trust and temporarily halting block production.
- **Privacy-Protocol Risk:** The Enygma protocol integrates zero-knowledge proofs, Pedersen commitments, and post-quantum AKE. Any flaw in cryptographic primitives or proof verification logic could expose transaction metadata, compromise privacy guarantees, or undermine institutional confidence in the network.
- **Validator and Node Infrastructure Risk:** The reliability of the network depends on geographically distributed validators and node operators. Hardware failures, poor

network connectivity, or concentration of validator control could degrade performance or centralise decision-making.

- **Smart-Contract Risk:** Bugs in governance, staking, or fee-settlement contracts could result in frozen assets, incorrect compensation distribution, or exploit paths leading to financial loss. Even minor coding errors may have large-scale on-chain consequences.
- **Scalability and Performance Risk:** As transaction volumes increase, throughput or latency constraints may emerge. Without continuous optimisation of the Reth client and Axyl consensus, network congestion could lead to higher fees or slower confirmation times.
- **Cryptographic and Quantum-Security Risk:** Advances in quantum computing or cryptanalysis could render existing cryptographic schemes (e.g., elliptic-curve signatures) insecure, potentially compromising validator keys, user wallets, or bridge verification.
- **Governance and Upgrade Risk:** Ineffective or delayed governance decisions regarding protocol upgrades may impede the timely mitigation of vulnerabilities. Conversely, rushed or contentious upgrades could cause incompatible forks or validator disputes.
- **Data Integrity and Corruption Risk:** Corrupted blockchain data—arising from software bugs, mis-synchronisation, or malicious manipulation—could jeopardise ledger consistency and require network rollback or re-initialisation, impacting trust and continuity.
- **Third-Party Dependency Risk:** Rayls relies on external service providers for cloud hosting, HSM/MPC key custody, and validator infrastructure. Disruption, insolvency, or security breaches in these partners could directly affect network uptime and user access.

I.6 Mitigation Measures:

RaylsFusion Ltd operates a layered security and governance programme centred on independent third-party security audits and a continuous bug-bounty scheme. All core components—the modified Reth execution client, consensus (QBFT/PoSA with an upgrade path to Axyl), Enygma privacy modules, and critical smart contracts for staking, governance, bridging, and fee-settlement—undergo pre-deployment and periodic re-audits, with material findings tracked to remediation and, where appropriate, published for transparency. In parallel, an always-on bug bounty (with responsible-disclosure workflows) compensates external researchers for identifying vulnerabilities across node software, contracts, and validator/infrastructure endpoints. High-risk contracts receive formal verification and rigorous peer review; the network is protected by real-time monitoring, alerting, and tested incident-response runbooks; validator integrity is enforced through slashing and geographic/operator diversity; and

continuity is supported by redundant infrastructure and disaster-recovery drills. HSM/MPC key management secures validator and treasury keys, while governance-controlled, modular upgrades enable fast, minimally disruptive patches when issues are discovered. Collectively, these controls reduce both the likelihood and impact of technical, operational, and compliance risks.

J. Information on Sustainability Indicators

S.1 Name: RAYLSFUSION LTD

S.3 Name of the crypto-asset: Rayls

S.4 Consensus mechanism:

- Suite-wide today: QBFT.
- Privacy Node: centralised PoA QBFT.
- Private Network Hub: decentralised PoA QBFT.
- Public Chain: decentralised QBFT operated by validators under PoSA; roadmap upgrade to Axyl (based on QBFT) in 2026.

S.5 Incentive mechanisms and applicable fees:

- Validators must stake RLS; compensation for validation services is funded by protocol economics with slashing for dishonesty.
- Fees: Public Chain gas fixed to USD via a stablecoin; private layers charge fiat-denominated fees that are settled in RLS on the Public Chain; premium lanes for priority.
- Deflationary mechanism: a portion of protocol fees are automatically burned to permanently reduce supply

S.6 Beginning of the period to which the disclosure relates: 2025-01-01

S.7 End of the period to which the disclosure relates: 2025-12-31

S.8 Energy consumption: 7350 kWh

S.9 Energy consumption sources and methodologies:

In accordance with Article 6(1)(j) of the Markets in Crypto-Assets Regulation (MiCA) and the Joint ESA Guidelines under Article 97(1), Rayls discloses in this section the environmental impacts solely of the Rayls public chain, which it operates directly. Rayls' architecture includes private networks that are independently deployed and operated by institutional clients; these are outside the scope of this disclosure, as Rayls does not manage or monitor their infrastructure or energy usage. This operator-based reporting approach is consistent with the regulatory framework, which focuses on the systems directly controlled by the offeror.

The total amount of energy used for the validation of transactions and for maintaining the integrity of the Rayls Public Chain is expressed in kilowatt-hours (kWh) per calendar year.

Two distinct phases are considered:

- Phase 1 (Pre-Mainnet): From token admission to trading until the launch of the mainnet (transactions executed on the Ethereum Proof-of-Stake network).
- Phase 2 (Post-Launch): From the mainnet launch onwards (transactions validated on the proprietary Proof-of-Stake Authority (PoSA) network).

Phase 1 – Top-Down Calculation (Ethereum PoS, Q4 2025)

- Formula: Total Energy (kWh) = Total Transactions × Energy Factor per Transaction (kWh)
$$\text{Total Energy (kWh)} = \text{Total Transactions} \times \text{Energy Factor per Transaction (kWh)}$$
- Inputs:
 - Total Transactions: 500,000
 - Energy Factor: 0.0147 kWh (14.7 Wh) per transaction
- Calculation: $500,000 \times 0.0147 = 7,350 \text{ kWh}$
- Result: $\approx 7.35 \text{ MWh}$ total energy consumption estimated for the period until mainnet activation.
- Rationale: This top-down estimate reflects the total energy used for ERC-20 token transactions executed on Ethereum's Proof-of-Stake blockchain prior to migration. The upper-bound value of 14.7 Wh per transaction is derived from De Vries (2022), ensuring a conservative approach.

Phase 2 – Bottom-Up Calculation (PoSA Mainnet, 2026 Onwards)

- Formula: Annual Energy (kWh) = (Power per Node (kW) × Number of Nodes) × 8,766
$$\text{Annual Energy (kWh)} = (\text{Power per Node (kW)} \times \text{Number of Nodes}) \times 8,766$$
- Inputs:
 - Power per Node: 0.205 kW
 - Number of Nodes: 4
- Calculation: $(0.205 \times 4) \times 8,766 = 7,188 \text{ kWh}$
- Result: $\approx 7.19 \text{ MWh}$ estimated annual energy consumption after mainnet launch.

- Rationale: The figure represents a conservative, upper-bound estimate based on the continuous operation of four validator nodes powered by high-performance hardware suitable for sustaining network integrity and consensus.

Sources and Methodology

- Total transactions estimated as a result of a conservative 250,000 signed up to the current testnet waiting list and then assuming that each user will send two transactions in the timeframe.
- Empirical validator node hardware specifications (2025): The assumed 0.205 kW (205 W) per validator node reflects an upper-bound estimate derived from experimental measurements of high-throughput blockchain validator peers operating under continuous load. For instance, Zhou et al. (2022), “Improving Energy Efficiency of Permissioned Blockchains Using FPGAs” (arXiv:2210.11839), recorded validator power draws in the 100–150 W range for sustained consensus workloads. The Rayls calculation therefore applies a ~35 % overhead margin to capture additional system components (network interfaces, storage, and cooling) and 24/7 operational redundancy, resulting in a conservative total of 0.205 kW per node × 4 nodes = 7.19 MWh annual energy use.
- Academic research on Proof-of-Stake energy consumption: De Vries, A. (2022). Cryptocurrencies on the road to sustainability: Ethereum paving the way for Bitcoin. *Patterns*, 4(1), 100633. <https://doi.org/10.1016/j.patter.2022.100633>

Summary:

- Phase 1 (Pre-Mainnet): 7.35 MWh total (one-time, transactional).
- Phase 2 (Post-Launch): 7.19 MWh per calendar year (ongoing operational).
- This methodology ensures transparent, conservative reporting of energy consumption across both the transitional and operational phases of the distributed ledger system.