CRYPTO RISK METRICS
DON'T TRUST. VERIFY.

White paper drafted under the European Markets in Crypto-Assets Regulation (EU) 2023/1114 for FFG ZCN8SR2H7

Preamble

00. Table of Content

01. Date of notification

This white paper was notified at 2026-01-15.

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), of Regulation (EU) 2023/1114

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

05. Statement in accordance with Article 6(5), point (d), of Regulation (EU) 2023/1114

As defined in Article 3(9) of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-Assets – amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 – a utility token is "a type of crypto-asset that is only intended to provide access to a good or a service supplied by its issuer". This crypto-asset does not qualify as a utility token, as its intended use goes beyond providing access to a good or service supplied solely by the issuer.

06. Statement in accordance with Article 6(5), points (e) and (f), of Regulation (EU) 2023/1114

The crypto-asset referred to in this white paper is not covered by the investor compensation schemes under Directive 97/9/EC of the European Parliament and of the Council or the deposit guarantee schemes under Directive 2014/49/EU of the European Parliament and of the Council.

Summary

07. Warning in accordance with Article 6(7), second subparagraph, of Regulation (EU) 2023/1114

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

08. Characteristics of the crypto-asset

The crypto-asset Stellar Lumen (XLM) referred to in this white paper is a crypto-asset other than EMTs and ARTs, and is issued on the Stellar network as of 2026-01-14 and according to DTI FFG shown in F.14. The initial maximum supply of the crypto asset was fixed at 100,000,000,000 units. The first activity on the Stellar network can be viewed on 2015-09-30 (account: GAAZI4TCR3TY5OJHCTJC2A4QSY6CJWJH5IAJTGKIN2ER7LBNVKOCCWN7, source https://stellar.expert/explorer/public/account/GAAZI4TCR3TY5OJHCTJC2A4QSY6CJWJH5IAJTGKIN2ER7LBNVKOCCWN7, accessed 2026-01-14).

Stellar is a decentralized, open-source blockchain network created in 2014 that's purpose-built for financial products and services. Unlike general-purpose blockchains, Stellar is specifically optimized for fast, low-cost cross-border payments and connecting the world's financial infrastructure. XLM is the native crypto-asset of the Stellar network. Lumens serve several critical functions:

- Transaction fees: All transactions on Stellar require a small fee paid in XLM to prevent ledger spam and prioritize transactions.

- Minimum account balances: Each account must hold a small reserve of lumens (currently 0.5 XLM base reserve).

- Smart contract rent: Used to fund resource consumption for smart contracts.

The crypto-asset does not grant any legally enforceable or contractual rights or obligations to its holders or purchasers. Any functionalities accessible through the underlying technology are purely technical or operational in nature and do not confer rights comparable to ownership, profit participation, governance, or similar entitlements known from traditional financial instruments.

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

As defined in Article 3(9) of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-Assets – amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 – a utility token is “a type of crypto-asset that is only intended to provide access to a good or a service supplied by its issuer”. This crypto-asset does not qualify as a utility token, as its intended use goes beyond providing access to a good or service supplied solely by the issuer.

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

Crypto Risk Metrics GmbH is seeking admission to trading on Payward Global Solutions LTD ("Kraken") platform in the European Union in accordance with Article 5 of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-Assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937. The admission to trading is not accompanied by a public offer of the crypto-asset.

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

A.1 Name

Crypto Risk Metrics GmbH is the person seeking admission to trading.

A.2 Legal form

The legal form of Crypto Risk Metrics GmbH is 2HBR, which corresponds to "Gesellschaft mit beschränkter Haftung".

A.3 Registered address

The registered address of Crypto Risk Metrics GmbH is Lange Reihe 73, 20099 Hamburg,

Germany,

federal state Hamburg.

A.4 Head office

Crypto Risk Metrics GmbH has no head office.

A.5 Registration date

Crypto Risk Metrics GmbH was registered on 2018-12-03.

A.6 Legal entity identifier

The Legal Entity Identifier (LEI) of Crypto Risk Metrics GmbH is 39120077M9TG0O1FE242.

A.7 Another identifier required pursuant to applicable national law

The national identifier of Crypto Risk Metrics GmbH is HRB 154488.

A.8 Contact telephone number

+4915144974120

A.9 E-mail address

info@crypto-risk-metrics.com

A.10 Response time (Days)

Crypto Risk Metrics GmbH will respond to investor enquiries within 30 calendar days.

A.11 Parent company

Crypto Risk Metrics GmbH has no parent company.

A.12 Members of the management body

Identity	Function	Business Address
Tim Zölitz	Chairman	Lange Reihe 73, 20099 Hamburg, Germany

A.13 Business activity

Crypto Risk Metrics GmbH is a technical service provider, which supports regulated entities in the fulfilment of their regulatory requirements. In this regard, Crypto Risk Metrics GmbH, among other services, acts as a data-provider for ESG data according to article 66 (5). Due to the regulations laid out in article 4 (7), 5 (4) and 66 (3) of the Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937, Crypto Risk Metrics GmbH aims to provide central services for crypto-asset white papers.

A.14 Parent company business activity

Crypto Risk Metrics GmbH does not have a parent company. Accordingly, no business activity of a parent company is to be reported in this section.

A.15 Newly established

Crypto Risk Metrics GmbH has been established since 2018-12-03 and is therefore not newly established (i. e. more than three years).

A.16 Financial condition for the past three years

Crypto Risk Metrics GmbH, founded in 2018 and based in Hamburg (HRB 154488), has undergone several strategic shifts in its business focus since incorporation. Due to these changes in business model and operational direction over time, the financial figures from earlier years are only comparable to a limited extent with the company's current commercial activities. The present business model – centred around regulatory technology and risk analytics in the context of the MiCAR framework – has been established progressively and can be realistically considered fully operational since approximately 2024.

The company's financial trajectory over the past three years reflects the transition from exploratory development toward market-ready product delivery. The profit and loss after tax for the last three financial years is as follows:

2024 (unaudited): negative EUR 50.891,81

2023 (unaudited): negative EUR 27.665,32

2022: EUR 104.283,00.

The profit in 2022 resulted primarily from legacy consulting activities, which were discontinued in the course of the company's repositioning.

The losses in 2023 and 2024 result from strategic investments in the development of proprietary software infrastructure, regulatory frameworks, and compliance technology for the MiCAR ecosystem. During those periods, no substantial commercial revenues were expected, as resources were directed toward preparing the platform for regulated market entry.

A fundamental repositioning of the company occurred in 2023 and especially in 2024, when the focus shifted toward providing risk management, regulatory reporting, and supervisory compliance solutions for financial institutions and crypto-asset service providers. This marked a material shift in business operations and monetisation strategy.

Based on the current business development in Q4 2025, revenues exceeding EUR 550,000 are expected for the fiscal year 2025, with an anticipated net profit of approximately EUR 100,000. These figures are neither audited nor based on a finalized annual financial statement; they are derived from the company's current pipeline, client development, and active commercial engagements. Accordingly, they are subject to future risks and market fluctuations.

With the regulatory environment now taking shape and the platform commercially validated, it is assumed that the effects of the strategic developments will continue to materialize in 2026. The company foresees further scalability of its technology and growing market demand for regulatory compliance tools in the European crypto-asset sector.

No public subsidies or governmental grants have been received to date; all operations have been financed through shareholder contributions and internally generated resources. Crypto Risk Metrics has never accepted any payments via Tokens from projects it has worked for and – due to the internal Conflicts of Interest Policy – never will.

A.17 Financial condition since registration

Not applicable. The company has been established for more than three years and its financial condition over the past three years is provided in Part A.16 above.

Part B – Information about the issuer, if different from the offeror or person seeking admission to trading

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

Yes, the issuer is different from the person seeking admission to trading.

B.2 Name

Stellar Development Foundation (SDF)

B.3 Legal form

The legal form of Stellar Development Foundation is XTIQ which corresponds to "Corporation".

B4. Registered address

The registered address of Stellar Development Foundation is 3500 S Dupont Hwy, Dover, Kent County, DE 19901

United States of America

Delaware

B.5 Head office

The Head office address of Stellar Development Foundation is 475 Brannan Street, Suite 400, San Francisco, CA 94107

United States of America

California

B.6 Registration date

Stellar Development Foundation was registered on 2014-03-31.

B.7 Legal entity identifier

The Legal Entity Identifier (LEI) of Stellar Development Foundation is 254900X03V7FQWGL6913.

B.8 Another identifier required pursuant to applicable national law

Not applicable.

B.9 Parent company

No parent company of Stellar Development Foundation can be identified.

B.10 Members of the management body

Identity	Function	Business Address
Denelle Dixon	CEO & Executive Director	Suite 701,, 12 Geary Street, San Francisco CA 94108, US
José Fernández da Ponte	President and Chief Growth Officer	Suite 701,, 12 Geary Street, San Francisco CA 94108, US
Raja Chakravorti	Chief Business Officer	Suite 701,, 12 Geary Street, San Francisco CA 94108, US
Tomer Weller	Chief Product Officer	Suite 701,, 12 Geary Street, San Francisco CA 94108, US
Jason Karsh	Chief Marketing Officer	Suite 701,, 12 Geary Street, San Francisco CA 94108, US

B.11 Business activity

Stellar Development Foundation is a non-profit organization founded in 2014 that maintains Stellar's codebase, supports the technical and business communities building on the network, and serves as a voice to regulators and institutions.

B.12 Parent company business activity

Stellar Development Foundation does not have a parent company.

Part C – Information about the operator of the trading platform in cases where it draws up the crypto-asset white paper and information about other persons drawing the crypto-asset white paper pursuant to Article 6(1), second subparagraph, of Regulation (EU) 2023/1114

C.1 Name

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.2 Legal form

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.3 Registered address

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.4 Head office

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.5 Registration date

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.6 Legal entity identifier

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.7 Another identifier required pursuant to applicable national law

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.8 Parent company

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.9 Reason for crypto-Asset white paper Preparation

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.10 Members of the Management body

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.11 Operator business activity

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

C.12 Parent company business activity

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

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

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

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

Not applicable since Crypto Risk Metrics GmbH is not a trading platform.

Part D – Information about the crypto-asset project

D.1 Crypto-asset project name

Long Name: "Stellar Lumen", Short Name: "XLM" according to the Digital Token Identifier Foundation (www.dtif.org, DTI see F.13, FFG DTI see F.14 as of 2026-01-14).

D.2 Crypto-assets name

Long Name: "Stellar Lumen" according to the Digital Token Identifier Foundation (www.dtif.org, DTI see F.13, FFG DTI see F.14 as of 2026-01-14).

D.3 Abbreviation

Short Name: "XLM" according to the Digital Token Identifier Foundation (www.dtif.org, DTI see F.13, FFG DTI see F.14 as of 2026-01-14).

D.4 Crypto-asset project description

According to public information (source: https://stellar.org, accessed 2026-01-14), the Stellar project is a crypto-asset initiative concerned with the development and operation of the Stellar network, a public, open-source distributed-ledger system designed to support fast, low-cost cross-border payments and the issuance and transfer of digital representations of fiat currencies and other assets. The network is architected as a specialised financial-transaction layer rather than a general-purpose application platform. It operates using the Stellar Consensus Protocol (SCP), a federated Byzantine agreement mechanism that allows independent validator nodes to reach agreement on transaction ordering and ledger state without relying on energy-intensive mining or stake-weighted voting. This design aims to enable rapid settlement finality, low transaction costs, and interoperability with external financial systems through on- and off-ramps operated by third-party service providers.

The XLM crypto-asset (also known as lumens) functions as a technical component within this broader framework. It is used to pay network transaction fees and smart-contract resource charges, to satisfy minimum balance requirements for accounts, and to provide an anti-spam and resource-allocation mechanism for the shared ledger. XLM may also be used as an intermediary or “bridge” asset in multi-asset payment paths, allowing value to be exchanged between different issued assets when direct liquidity pools do not exist. Ledger balances are represented with high precision through subdivision into “stroops” (one ten-millionth of an XLM), and the supply dynamics of XLM are governed by protocol rules rather than by any claim on underlying assets or revenues.

The project does not involve the granting of ownership, profit-participation rights, or legal claims against the project entity or its contributors. Instead, it centres on the creation of a technical environment in which the XLM crypto-asset may serve as a governance and utility input for certain protocol processes. The long-term evolution of the Stellar system, including the scope of available features, the decentralisation roadmap, validator-selection mechanisms, and the operational continuity of the infrastructure, may vary based on technical, economic, and regulatory considerations. All future developments remain subject to change.

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

Type of person	Name of person	Business address of person	Domicile of company
Other person involved in implementation	Denelle Dixon	Suite 701, 12 Geary Street, San Francisco CA 94108, US	United States
Other person involved in implementation	José Fernández Da Ponte	Suite 701, 12 Geary Street, San Francisco CA 94108, US	United States
Other person involved in implementation	Raja Chakravorti	Suite 701, 12 Geary Street, San Francisco CA 94108, US	United States
Other person involved in implementation	Tomer Weller	Suite 701, 12 Geary Street, San Francisco CA 94108, US	United States
Other person involved in implementation	Jason Karsh	Suite 701, 12 Geary Street, San Francisco CA 94108, US	United States
Other person involved in implementation	Stellar Development Foundation	3500 S Dupont Hwy, Dover, DE 19901, US	United States

D.6 Utility Token Classification

As defined in Article 3(9) of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-Assets – amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 – a utility token is “a type of crypto-asset that is only intended to provide access to a good or a service supplied by its issuer”. This crypto-asset does not qualify as a utility token, as its intended use goes beyond providing access to a good or service supplied solely by the issuer.

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

As defined in Article 3(9) of Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-Assets – amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937 – a utility token is “a type of crypto-asset that is only intended to provide access to a good or a service supplied by its issuer”. This crypto-asset does not qualify as a utility token, as its intended use goes beyond providing access to a good or service supplied solely by the issuer.

D.8 Plans for the token

This section provides an overview of the historical developments related to the XLM crypto-asset and a description of planned or anticipated project milestones as publicly communicated. All forward-looking elements are subject to significant uncertainty. They do not constitute commitments, assurances, or guarantees, and may be modified, delayed, or discontinued at any time. The implementation of past milestones cannot be assumed to continue in the future, and future changes may have adverse effects for token holders.

There is a formally published roadmap for the XLM crypto-asset and the Stellar protocol. Based on the official roadmap (source: https://stellar.org/foundation/roadmap and https://developers.stellar.org/, accessed 2026-01-14), several protocol upgrades, ecosystem initiatives, and crypto-asset-related developments have been communicated that affect the evolution of the Stellar protocol and the role of the XLM crypto-asset.

Past milestones:

- Network Foundation and Initial Launch (2014–2015): The Stellar project was initiated in 2014 with the formation of its supporting foundation and the creation of approximately 100 billion units of the native crypto-asset at network launch.

- Adoption of Stellar Consensus Protocol (2015): The replacement of the original consensus design with SCP established a federated Byzantine agreement model intended to support decentralised validation and improved network coordination.

- Termination of Inflation Mechanism (October 2019): The community approved the removal of the protocol-level inflation feature, ending the annual increase of the crypto-asset supply that had previously been set at approximately 1% per year.

- Supply Reduction via Token Burn (November 2019): A substantial portion of the crypto-asset supply held by the foundation, exceeding 55 billion units, was permanently removed from circulation by transfer to an inaccessible account, resulting in a total supply of approximately 50 billion units.

Future milestones:

- Gradual Distribution of Foundation-Held Crypto-Assets (Future period): While no additional units of the crypto-asset are planned to be created, the foundation intends to distribute portions of its remaining holdings over time to support ecosystem development, which may incrementally increase the circulating supply.

- Throughput Scaling Enhancements (Date not specified): Planned protocol improvements aim to increase theoretical peak transaction throughput to approximately 5,000 transactions per second through increased concurrency and ahead-of-time compilation for smart contracts.

- Adoption of Standardised Token Frameworks (Date not specified): The project plans to integrate widely used open-source token standards to facilitate the issuance and management of fungible tokens, non-fungible tokens, and tokenised real-world assets on the network.

Note: All future milestones are subject to significant uncertainty, including but not limited to technical feasibility, regulatory developments, market adoption, and community governance decisions. The project may modify, delay, or discontinue any of these initiatives at any time. Past performance or implementation does not guarantee future success, and changes may materially affect the value or utility of the XLM token for holders.

D.9 Resource allocation

Due to the issuer structure within a foundation, it cannot be ruled out that the project may access external resources in the form of external investors. This cannot be externally validated. The project itself has access to various resources through the initial token distribution. Whether additional or other financial means and resources can be made available cannot be externally validated.

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

Not applicable, as this white paper serves the purpose of admission to trading and is not associated with any fundraising activity for the crypto-asset project.

Part E – Information about the offer to the public of crypto-assets or their admission to trading

E.1 Public offering or admission to trading

Crypto Risk Metrics GmbH is the person seeking admission to trading.

E.2 Reasons for public offer or admission to trading

The purpose of seeking admission to trading is to enable the crypto-asset to be listed on a regulated platform in accordance with the applicable provisions of Regulation (EU) 2023/1114 and Commission Implementing Regulation (EU) 2024/2984. The white paper has been drawn up to comply with the transparency requirements applicable to trading venues.

E.3 Fundraising target

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

E.4 Minimum subscription goals

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

E.5 Maximum subscription goals

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

E.6 Oversubscription acceptance

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

E.7 Oversubscription allocation

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

E.8 Issue price

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

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

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

E.10 Subscription fee

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

E.11 Offer price determination method

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

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

The maximum supply of the crypto-asset is set at 50,001,786,883 units. Investors should note that changes in the effective supply – including sudden increases in circulating units or unexpected burns – may affect the token's price and liquidity. The effective amount of units available on the market depends on the number of units released by the issuer or other parties at any given time, as well as potential reductions through "burning." As a result, the circulating supply may differ from the total supply.

E.13 Targeted holders

The admission of the crypto-asset to trading is open to all types of investors.

E.14 Holder restrictions

Holder restrictions are subject to the rules applicable to the crypto-asset service provider, as well as to any additional restrictions such provider may impose.

E.15 Reimbursement notice

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

E.16 Refund mechanism

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

E.17 Refund timeline

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

E.18 Offer phases

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

E.19 Early purchase discount

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

E.20 Time-limited offer

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

E.21 Subscription period beginning

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

E.22 Subscription period end

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

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

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

E.24 Payment methods for crypto-asset purchase

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

E.25 Value transfer methods for reimbursement

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

E.26 Right of withdrawal

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

E.27 Transfer of purchased crypto-assets

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

E.28 Transfer time schedule

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

E.29 Purchaser's technical requirements

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

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

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

E.31 CASP identifier

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

E.32 Placement form

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

E.33 Trading platforms name

The admission to trading is sought on Payward Global Solutions LTD ("Kraken").

E.34 Trading platforms Market identifier code (MIC)

The Market Identifier Code (MIC) of Payward Global Solutions LTD ("Kraken") is PGSL.

E.35 Trading platforms access

The token is intended to be listed on the trading platform operated by Payward Global Solutions LTD ("Kraken"). Access to this platform depends on regional availability and user eligibility under Kraken’s terms and conditions. Investors should consult Kraken’s official documentation to determine whether they meet the requirements for account creation and token trading.

E.36 Involved costs

The costs involved in accessing the trading platform depend on the specific fee structure and terms of the respective crypto-asset service provider. These may include trading fees, deposit or withdrawal charges, and network-related gas fees. Investors are advised to consult the applicable fee schedule of the chosen platform before engaging in trading activities.

E.37 Offer expenses

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

E.38 Conflicts of interest

MiCAR-compliant crypto-asset service providers shall have strong measures in place in order to manage conflicts of interests. Due to the broad audience this white paper is addressing, potential investors should always check the conflicts-of-interest policy of their respective counterparty.

Crypto Risk Metrics GmbH has established, implemented, and documented comprehensive internal policies and procedures for the identification, prevention, management, and documentation of conflicts of interest in accordance with applicable regulatory requirements. These internal measures are actively applied within the organisation. For the purposes of this specific assessment and the crypto-asset covered by this white paper, a token-specific review has been conducted by Crypto Risk Metrics GmbH. Based on this individual review, no conflicts of interest relevant to this crypto-asset have been identified at the time of preparation of this white paper.

E.39 Applicable law

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

E.40 Competent court

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

Part F – Information about the crypto-assets

F.1 Crypto-asset type

The crypto-asset described in the white paper is classified as a crypto-asset under the Markets in Crypto-Assets Regulation (MiCA) but is neither classified as an electronic money token (EMT) or an asset-referenced token (ART).

It is a digital representation of value that can be stored and transferred using distributed ledger technology (DLT) or similar technology, without embodying or conferring any rights to its holder.

The asset does not aim to maintain a stable value by referencing an official currency, a basket of assets, or any other underlying rights. Instead, its valuation is entirely market-driven, based on supply and demand dynamics, and not governed by a stabilisation mechanism. It is neither pegged to any fiat currency nor backed by any external assets, thereby clearly distinguishing it from EMTs and ARTs.

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

F.2 Crypto-asset functionality

According to public information available in the official Stellar documentation (https://developers.stellar.org/, accessed 2025-01-14), the XLM crypto-asset is the native crypto-asset of the Stellar blockchain and is intended to function as the primary on-chain economic and coordination mechanism within the Stellar protocol.

Within the Stellar network, XLM performs protocol-level resource and security functions. A minimum XLM balance is required for accounts and ledger entries in order to limit spam and uncontrolled ledger growth. All transactions must pay network fees in XLM, and in periods of congestion the protocol applies surge-pricing so that transactions offering higher fees are prioritized for inclusion. For smart-contract operations executed through the Soroban platform, XLM is used to pay rent and execution fees based on storage size, execution time, and ledger access, thereby acting as a metering and accounting unit for consumed network resources.

XLM also functions as a liquidity and settlement bridge asset within the Stellar decentralized exchange and payment rails, allowing participants to route trades and cross-border transfers between different issued assets using a common protocol-native unit of account.

The XLM token does not confer ownership, profit participation, governance rights over the issuer or any related entity, or any form of economic entitlement. All functionalities are technical in nature and relate exclusively to interactions within the Stellar protocol environment. The actual usability of XLM depends on factors such as system stability, smart-contract execution, development progress, governance decisions, and the operational conditions of the Stellar blockchain, which are outside the control of token holders.

F.3 Planned application of functionalities

Future milestones:

- Gradual Distribution of Foundation-Held Crypto-Assets (Future period): While no additional units of the crypto-asset are planned to be created, the foundation intends to distribute portions of its remaining holdings over time to support ecosystem development, which may incrementally increase the circulating supply.

- Throughput Scaling Enhancements (Date not specified): Planned protocol improvements aim to increase theoretical peak transaction throughput to approximately 5,000 transactions per second through increased concurrency and ahead-of-time compilation for smart contracts.

- Adoption of Standardised Token Frameworks (Date not specified): The project plans to integrate widely used open-source token standards to facilitate the issuance and management of fungible tokens, non-fungible tokens, and tokenised real-world assets on the network.

Note: All future milestones are subject to significant uncertainty, including but not limited to technical feasibility, regulatory developments, market adoption, and community governance decisions. The project may modify, delay, or discontinue any of these initiatives at any time. Past performance or implementation does not guarantee future success, and changes may materially affect the value or utility of the XLM token for holders.

A description of the characteristics of the crypto asset, including the data necessary for classification of the crypto-asset white paper in the register referred to in Article 109 of Regulation (EU) 2023/1114, as specified in accordance with paragraph 8 of that Article

F.4 Type of crypto-asset white paper

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

F.5 The type of submission

The type of submission is NEWT (New white paper).

F.6 Crypto-asset characteristics

The crypto-asset referred to herein is a crypto-asset other than EMTs and ARTs, and is available on the Stellar network. The crypto-asset is fungible up to 7 digits after the decimal point. The crypto-asset constitutes a digital representation recorded on distributed-ledger technology and does not confer ownership, governance, profit participation, or any other legally enforceable rights. Any functionalities associated with the token are limited to potential technical features within the relevant platform environment. These functionalities do not represent contractual entitlements and may depend on future development decisions, technical design choices, and operational conditions. The crypto-asset does not embody intrinsic economic value; instead, its value, if any, is determined exclusively by market dynamics such as supply, demand, and liquidity in secondary markets.

F.7 Commercial name or trading name

Long Name: "Stellar Lumen" according to the Digital Token Identifier Foundation (www.dtif.org, DTI see F.13, FFG DTI see F.14 as of 2026-01-14).

F.8 Website of the issuer

https://stellar.org/

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

2026-02-13

F.10 Publication date

2026-02-13

F.11 Any other services provided by the issuer

No such services are currently known to be provided by the issuer. However, it cannot be excluded that additional services exist or may be offered in the future outside the scope of Regulation (EU) 2023/1114.

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

EN

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

C4SRNZD8K

F.14 Functionally fungible group digital token identifier

ZCN8SR2H7

F.15 Voluntary data flag

This white paper has been submitted as mandatory under Regulation (EU) 2023/1114.

F.16 Personal data flag

Yes, this white paper contains personal data as defined in Regulation (EU) 2016/679 (GDPR).

F.17 LEI eligibility

Yes, this white paper contains personal data as defined in Regulation (EU) 2016/679 (GDPR).

F.18 Home Member State

Germany

F.19 Host Member States

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden

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

G.1 Purchaser rights and obligations

The crypto-asset does not grant any legally enforceable or contractual rights or obligations to its holders or purchasers.

Any functionalities accessible through the underlying technology are of a purely technical or operational nature and do not constitute rights comparable to ownership, profit participation, governance, or similar entitlements known from traditional financial instruments.

Accordingly, holders do not acquire any claim capable of legal enforcement against the issuer or any third party.

G.2 Exercise of rights and obligations

As the crypto-asset does not establish any legally enforceable rights or obligations, there are no applicable procedures or conditions for their exercise.

Any interaction or functionality that may be available within the technical infrastructure of the project – such as participation mechanisms or protocol-level features – serves operational purposes only and does not create or constitute evidence of any contractual or statutory entitlement.

G.3 Conditions for modifications of rights and obligations

As the crypto-asset does not confer any legally enforceable rights or obligations, there are no conditions or mechanisms under which such rights could be modified.

Adjustments to the technical protocol, smart contract logic, or related systems may occur in the ordinary course of development or maintenance.

Such changes do not alter the legal position of holders, as no contractual or regulatory rights exist. Holders should not interpret technical updates or governance-related changes as amendments to legally binding entitlements.

G.4 Future public offers

Information on the future offers to the public of crypto-assets were not available at the time of writing this white paper (2026-01-14).

G.5 Issuer retained crypto-assets

Based on publicly available information (source: https://developers.stellar.org/docs/learn/fundamentals/lumens, accessed on 2026-01-14), the Stellar Development Foundation (SDF) initially retained approximately 30 billion lumens to develop and promote the growth of the Stellar network pursuant to its mandate. More recent publicly available supply metrics indicate that SDF-mandated accounts now hold approximately 17 billion lumens. Following (i) the community vote to end the 1% inflation mechanism in October 2019 and (ii) a supply reduction ("burn") in November 2019 that reduced lumens outstanding from approximately 105 billion to approximately 50 billion, the XLM supply is now effectively fixed at 50 billion, and no additional lumens are expected to be created under the protocol's design.

Note: While the allocation to the Stellar Development Foundation is publicly disclosed, on-chain wallet addresses associated with this allocation cannot be independently linked to specific natural persons. Token movements or internal treasury management actions may occur without prior notice and could affect the concentration of holdings and the future governance influence associated with these assets. The current token distribution can be traced on-chain: https://stellar.expert/explorer/public/asset/XLM?filter=asset-holders

G.6 Utility token classification

No – the crypto-asset project does not concern utility tokens as defined in Article 3(9) of Regulation (EU) 2023/1114.

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

Not applicable, as the crypto-asset described herein is not a utility token.

G.8 Utility tokens redemption

Not applicable, as the crypto-asset described herein is not a utility token.

G.9 Non-trading request

The admission to trading is sought.

G.10 Crypto-assets purchase or sale modalities

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

G.11 Crypto-assets transfer restrictions

The crypto-assets themselves are not subject to any technical or contractual transfer restrictions and are generally freely transferable. However, crypto-asset service providers may impose restrictions on buyers or sellers in accordance with applicable laws, internal policies or contractual terms agreed with their clients.

G.12 Supply adjustment protocols

No – there are no fixed protocols that can increase or decrease the supply of the crypto-asset in response to changes in demand as of 2026-01-14.

G.13 Supply adjustment mechanisms

For the crypto-asset in scope, the supply is limited to 50,000,000,000 units according to public information (Source: https://developers.stellar.org/docs/learn/fundamentals/lumens, accessed 2026-01-14). Investors should note that changes in the supply of the crypto-asset can have a negative impact.

G.14 Token value protection schemes

No – the crypto-asset does not have any mechanisms or schemes in place that aim to stabilise or protect its market value. Its value is determined solely by market supply and demand, and may be subject to significant volatility.

G.15 Token value protection schemes description

Not applicable, as the crypto-asset in scope does not have any value protection scheme in place.

G.16 Compensation schemes

No – the crypto-asset does not have any compensation scheme.

G.17 Compensation schemes description

Not applicable, as the crypto-asset in scope does not have any compensation scheme in place.

G.18 Applicable law

This white paper is submitted in the context of an application for admission to trading on a trading platform established in the European Union. Accordingly, this white paper shall be governed by the laws of the Federal Republic of Germany.

G.19 Competent court

Any disputes arising in relation to this white paper or the admission to trading may fall under the jurisdiction of of the competent courts in Hamburg, Germany.

Part H – information on the underlying technology

H.1 Distributed ledger technology (DTL)

The crypto-asset in scope is implemented on the Stellar network following the standards described below.

H.2 Protocols and technical standards

The crypto-asset in scope is implemented on the Stellar network following the standards described below.

The following applies to Stellar:

The XLM crypto-asset operates within the Stellar protocol stack, which is designed to support fast settlement, deterministic execution, and interoperability with external financial systems. Stellar uses an account-based ledger model in which balances, signing authority, and asset relationships are recorded directly on accounts. The system state is maintained through a blockchain of ledgers, each cryptographically linked to the previous one by a header hash, creating a single canonical transaction history.

Consensus is achieved through the Stellar Consensus Protocol (SCP), an implementation of Federated Byzantine Agreement (FBA). Nodes form quorum slices based on trusted validators and jointly agree on transaction sets through a process of nomination, voting, acceptance, and confirmation. This mechanism is intended to provide low-latency finality, with new ledgers typically closing every five to seven seconds, without relying on mining or a fixed validator set.

All transactions and ledger entries are encoded using External Data Representation (XDR), which provides a canonical binary format for network communication, validation, and signature verification. Smart contracts are executed through Soroban, which runs WebAssembly (Wasm) bytecode in a secure host–guest environment. Contracts are primarily written in Rust and compiled to Wasm, and execution is metered using resource-based fees covering computation, memory, and ledger access.

Ledger state consists of discrete ledger entries such as accounts, trustlines, and contract data, which are stored in a structure called the Bucket List. The root hash of this structure is recorded in each ledger header, allowing nodes to verify global state integrity. To limit state growth, ledger entries are subject to time-to-live rules and must pay rent to remain active.

Off-chain interaction is standardised through Horizon, a REST API, and Stellar RPC, a JSON-RPC interface used for smart-contract and ledger queries. Additional platforms such as the Stellar Disbursement Platform and regulated anchors connect the on-chain XLM ecosystem with off-chain payment systems, allowing XLM to function as the native settlement and fee asset across both on-chain and external financial workflows.

H.3 Technology used

The crypto-asset in scope is implemented on the Stellar network following the standards described below.

The following applies to Stellar:

The XLM crypto-asset is recorded and transferred on the Stellar public blockchain, which acts as a decentralized ledger intended to provide a tamper-resistant and transparent record of balances and transactions. Ownership of XLM and all other Stellar assets is represented at the account level within this ledger, and changes to balances occur only when valid transactions are applied to the ledger state.

Access to XLM balances is controlled through asymmetric cryptography. Each Stellar account is identified by a public key and controlled by one or more corresponding private keys. These private keys are used to authorize transactions, meaning that possession of the private key grants control over the associated crypto-assets. Users are therefore required to securely manage their private keys and any recovery credentials, as loss or compromise of these credentials can result in loss of control over the crypto-assets.

Transaction authenticity and data integrity are enforced through cryptographic signatures and hashing. Transactions are signed using the Ed25519 elliptic-curve signature scheme, allowing network participants to verify that transaction instructions were created by the legitimate account holder. All transactions and ledger data are encoded in XDR format and incorporated into ledger headers that include cryptographic hashes of the ledger contents and of the previous ledger, forming a chained data structure that is intended to prevent undetected modification of historical records.

Smart-contract activity executed through the Soroban platform is additionally protected at the execution level. Contract code runs inside a WebAssembly-based sandbox, and its access to ledger data is mediated by the host environment. Resource usage is metered and limited, which is intended to reduce the risk of malicious or faulty code consuming excessive computation or altering ledger state in unintended ways, thereby supporting the security of XLM-denominated transactions that interact with smart contracts.

H.4 Consensus mechanism

The crypto-asset in scope is implemented on the Stellar network following the standards described below.

The following applies to Stellar:

Stellar uses a unique consensus mechanism known as the Stellar Consensus Protocol (SCP).

Core Concepts:

1. Federated Byzantine Agreement (FBA):

- SCP is built on the principles of Federated Byzantine Agreement (FBA), which allows decentralized, leaderless consensus without the need for a closed system of trusted participants. - Quorum Slices: Each node in the network selects a set of other nodes (quorum slice) that it trusts. Consensus is achieved when these slices overlap and collectively agree on the transaction state.

2. Nodes and Validators:

- Nodes: Nodes running the Stellar software participate in the network by validating transactions and maintaining the ledger.

- Validators: Nodes that are responsible for validating transactions and reaching consensus on the state of the ledger. Consensus Process

3. Transaction Validation:

- Transactions are submitted to the network and nodes validate them based on predetermined rules, such as sufficient balances and valid signatures.

4. Nomination Phase:

- Nomination: Nodes nominate values (proposed transactions) that they believe should be included in the next ledger. Nodes communicate their nominations to their quorum slices.

- Agreement on Nominations: Nodes vote on the nominated values, and through a process of voting and federated agreement, a set of candidate values emerges. This phase continues until nodes agree on a single value or a set of values.

5. Ballot Protocol (Voting and Acceptance): Balloting:

- The agreed-upon values from the nomination phase are then put into ballots. Each ballot goes through multiple rounds of voting, where nodes vote to either accept or reject the proposed values.

- Federated Voting: Nodes exchange votes within their quorum slices, and if a value receives sufficient votes across overlapping slices, it moves to the next stage.

- Acceptance and Confirmation: If a value gathers enough votes through multiple stages (prepare, confirm, externalize), it is accepted and externalized as the next state of the ledger.

6. Ledger Update:

Once consensus is reached, the new transactions are recorded in the ledger. Nodes update their copies of the ledger to reflect the new state. Security and Economic Incentives

7. Trust and Quorum Slices:

Nodes are free to choose their own quorum slices, which provides flexibility and decentralization. The overlapping nature of quorum slices ensures that the network can reach consensus even if some nodes are faulty or malicious.

8. Stability and Security:

SCP ensures that the network can achieve consensus efficiently without relying on energy-intensive mining processes. This makes it environmentally friendly and suitable for high-throughput applications.

9. Incentive Mechanisms:

Unlike Proof of Work (PoW) or Proof of Stake (PoS) systems, Stellar does not rely on direct economic incentives like mining rewards. Instead, the network incentivizes participation through the intrinsic value of maintaining a secure, efficient, and reliable payment network.

H.5 Incentive mechanisms and applicable fees

The crypto-asset in scope is implemented on the Stellar network following the standards described below.

The following applies to Stellar:

Stellar’s consensus mechanism, the Stellar Consensus Protocol (SCP), is designed to achieve decentralized and secure transaction validation through a federated Byzantine agreement (FBA) model. Unlike Proof of Work (PoW) or Proof of Stake (PoS) systems, Stellar does not rely on direct economic incentives like mining rewards. Instead, it ensures network security and transaction validation through intrinsic network mechanisms and transaction fees.

Incentive Mechanisms:

1. Quorum Slices and Trust:

- Quorum Slices: Each node in the Stellar network selects other nodes it trusts to form a quorum slice. Consensus is achieved through the intersection of these slices, creating a robust and decentralized trust network.

- Federated Voting: Nodes communicate their votes within their quorum slices, and through multiple rounds of federated voting, they agree on the transaction state. This process ensures that even if some nodes are compromised, the network can still achieve consensus securely.

2. Intrinsic Value and Participation:

- Network Value: The intrinsic value of participating in a secure, efficient, and reliable payment network incentivizes nodes to act honestly and maintain network security. Organizations and individuals running nodes benefit from the network's functionality and the ability to facilitate transactions.

- Decentralization: By allowing nodes to choose their own quorum slices, Stellar promotes decentralization, reducing the risk of central points of failure and making the network more resilient to attacks. Fees on the Stellar Blockchain

3. Transaction Fees:

- Flat Fee Structure: Each transaction on the Stellar network incurs a flat fee of 0.00001 XLM (known as a base fee). This low and predictable fee structure makes Stellar suitable for micropayments and high-volume transactions.

- Spam Prevention: The transaction fee serves as a deterrent against spam attacks. By requiring a small fee for each transaction, Stellar ensures that the network remains efficient and that resources are not wasted on processing malicious or frivolous transactions.

4. Operational Costs:

- Minimal Fees: The minimal transaction fees on Stellar not only prevent spam but also cover the operational costs of running the network. This ensures that the network can sustain itself without placing a significant financial burden on users.

5. Reserve Requirements:

- Account Reserves: To create a new account on the Stellar network, a minimum balance of 1 XLM is required. This reserve requirement prevents the creation of an excessive number of accounts, further protecting the network from spam and ensuring efficient resource usage.

- Trustline and Offer Reserves: Additional reserve requirements exist for creating trustlines and offers on the Stellar decentralized exchange (DEX). These reserves help maintain network integrity and prevent abuse.

H.6 Use of distributed ledger technology

Yes - DLT is not operated by the issuer, the offeror, the person seeking admission to trading, or any third-party acting on their behalf.

H.7 DLT functionality description

Stellar is an account-based distributed ledger designed for rapid transaction finality, predictable execution, and integration with external financial infrastructures. Account balances, permissions, and asset relationships are maintained directly on-ledger, with system state evolving through a sequence of cryptographically linked ledgers that together form a single authoritative transaction history.

Network agreement is reached via the Stellar Consensus Protocol (SCP), which is based on a Federated Byzantine Agreement model. Validators rely on configurable trust relationships to form quorums and collectively confirm transaction sets through multiple consensus phases. This approach enables frequent ledger closures - typically within a few seconds. without mining or a centrally defined validator set.

Data structures and transactions are serialised using External Data Representation (XDR), ensuring consistent encoding and verification across the network. Smart contract functionality is provided by Soroban, which executes WebAssembly code in a sandboxed environment. Contracts are generally developed in Rust and incur fees based on consumed computational and storage resources.

H.8 Audit

As the term "technology" encompasses a broad range of components, it cannot be confirmed that all elements or aspects of the technology employed have undergone a comprehensive and systematic technical examination. Accordingly, the answer to whether an audit of the technology used has been conducted must be no. This white paper focuses primarily on risk-related aspects and therefore does not imply, nor should it be interpreted as implying, that a full assessment or audit of all technological elements has been conducted.

H.9 Audit outcome

Not applicable, as no comprehensive audit of the technology used has been conducted or can be confirmed.

Part I – Information on risks

I.1 Offer-related risks

1. Regulatory and Compliance

Regulatory frameworks applicable to crypto-asset services in the European Union and in third countries are evolving. Supervisory authorities may introduce, interpret, or enforce rules that affect (i) the eligibility of this crypto-asset for admission to trading, (ii) the conditions under which a crypto-asset service provider may offer trading, custody, or transfer services for it, or (iii) the persons or jurisdictions to which such services may be provided. As a result, the crypto-asset service provider admitting this crypto-asset to trading may be required to suspend, restrict, or terminate trading or withdrawals for regulatory reasons, even if the crypto-asset itself continues to function on its underlying network.

2. Trading venue and connection risk

Trading in the crypto-asset depends on the uninterrupted operation of the trading platform admitting it and, where applicable, on its technical connections to external liquidity sources or venues. Interruptions such as system downtime, maintenance, faulty integrations, API changes, or failures at an external venue can temporarily prevent order placement, execution, deposits, or withdrawals, even when the underlying blockchain is functioning. In addition, trading platforms in emerging markets may operate under differing governance, compliance, and oversight standards, which can increase the risk of operational failures or disorderly market conditions.

3. Market formation and liquidity conditions

The price and tradability of the crypto-asset depend on actual trading activity on the venues to which the service provider is connected, whether centralized exchanges (CEXs) or decentralized exchanges (DEXs). Trading volumes may at times be low, order books thin, or liquidity concentrated on a single venue. In such conditions, buy or sell orders may not be executed in full or may be executed only at a less favorable price, resulting in slippage.

Volatility: The market price of the crypto-asset may fluctuate significantly over short periods, including for reasons that are not linked to changes in the underlying project or protocol. Periods of limited liquidity, shifts in overall market sentiment, or trading on only a small number of CEXs or DEXs can amplify these movements and lead to higher slippage when orders are executed. As a result, investors may be unable to sell the crypto-asset at or close to a previously observed price, even though no negative project-specific event has occurred.

4. Counterparty and service-provider dependence

The admission of the crypto-asset to trading may rely on several external parties, such as connected centralized or decentralized trading venues, liquidity providers, brokers, custodians, or technical integrators. If any of these counterparties fail to perform, suspend their services, or apply internal restrictions, the trading, deposit, or withdrawal of the crypto-asset on the admitting service provider can be interrupted or halted.

Quality of counterparties: Trading venues and service providers in certain jurisdictions may operate under regulatory or supervisory standards that are lower or differently enforced than those applicable in the European Union. In such environments, deficiencies in governance, risk management, or compliance may remain undetected, which increases the probability of abrupt service interruptions, investigations, or forced wind-downs.

Delisting and service suspension: The crypto-asset’s availability may depend on the internal listing decisions of these counterparties. A delisting or suspension on a key connected venue can materially reduce liquidity or make trading temporarily impossible on the admitting service provider, even if the underlying crypto-asset continues to function.

Insolvency of counterparties: If a counterparty involved in holding, routing, or settling the crypto-asset becomes insolvent, enters restructuring, or is otherwise subject to resolution-type measures, assets held or processed by that counterparty may be frozen, become temporarily unavailable, or be recoverable only in part or not at all, which can result in losses for clients whose positions were maintained through that counterparty. This risk applies in particular where client assets are held on an omnibus basis or where segregation is not fully recognized in the counterparty's jurisdiction.

5. Operational and information risks

Due to the irrevocability of blockchain transactions, incorrect approvals or the use of wrong networks or addresses will typically make the transferred funds irrecoverable. Because trading may also rely on technical connections to other venues or service providers, downtime or faulty code in these connections can temporarily block trading, deposits, or withdrawals even when the underlying blockchain is functioning. In addition, different groups of market participants may have unequal access to technical, governance, or project-related information, which can lead to information asymmetry and place less informed investors at a disadvantage when making trading decisions.

6. Market access and liquidity concentration risk

If the crypto-asset is only available on a limited number of trading platforms or through a single market-making entity, this may result in reduced liquidity, greater price volatility, or periods of inaccessibility for retail holders.

I.2 Issuer-related risks

1. Insolvency of the issuer

As with any commercial entity, the issuer may face insolvency risks. These may result from insufficient funding, low market interest, mismanagement, or external shocks (e.g. pandemics, wars). In such a case, ongoing development, support, and governance of the project may cease, potentially affecting the viability and tradability of the crypto-asset.

2. Legal and regulatory risks

The issuer operates in a dynamic and evolving regulatory environment. Failure to comply with applicable laws or regulations in relevant jurisdictions may result in enforcement actions, penalties, or restrictions on the project's operations. These may negatively impact the crypto-asset's availability, market acceptance, or legal status.

3. Operational risks

The issuer may fail to implement adequate internal controls, risk management, or governance processes. This can result in operational disruptions, financial losses, delays in updating the white paper, or reputational damage.

4. Governance and decision-making

The issuer's management body is responsible for key strategic, operational, and disclosure decisions. Ineffective governance, delays in decision-making, or lack of resources may compromise the stability of the project and its compliance with MiCA requirements. High concentration of decision-making authority or changes in ownership/control can amplify these risks.

5. Reputational risks

The issuer's reputation may be harmed by internal failures, external accusations, or association with illicit activity. Negative publicity can reduce trust in the issuer and impact the perceived legitimacy or value of the crypto-asset.

6. Counterparty dependence

The issuer may depend on third-party providers for certain core functions, such as technology development, marketing, legal advice, or infrastructure. If these partners discontinue their services, change ownership, or underperform, the issuer's ability to operate the project or maintain investor communication may be impaired. This could disrupt project continuity or undermine market confidence, ultimately affecting the crypto-asset's value.

I.3 Crypto-assets-related risks

1. Valuation risk

The crypto-asset does not represent a claim, nor is it backed by physical assets or legal entitlements. Its market value is driven solely by supply and demand dynamics and may fluctuate significantly. In the absence of fundamental value anchors, such assets can lose their entire market value within a very short time. Historical market behaviour has shown that some types of crypto-assets – such as meme coins or purely speculative tokens – have become worthless. Investors should be aware that this crypto-asset may lose all of its value.

2. Market volatility risk

Crypto-asset prices can fluctuate sharply due to changes in market sentiment, macroeconomic conditions, regulatory developments, or technology trends. Such volatility may result in rapid and significant losses. Holders should be prepared for the possibility of losing the full amount invested.

3. Liquidity and price-determination risk

Low trading volumes, fragmented trading across venues, or the absence of active market makers can restrict the ability to buy or sell the crypto-asset. In such situations, it is not guaranteed that an observable market price will exist at all times. Spreads may widen materially, and orders may only be executable under unfavourable conditions, which can make liquidation costly or temporarily impossible.

4. Asset security risk

Loss or theft of private keys, unauthorised access to wallets, or failures of custodial or exchange service providers can result in the irreversible loss of assets. Because blockchain transactions are final, recovery of funds after a compromise is generally impossible.

5. Fraud and scam risk

The pseudonymous and irreversible nature of blockchain transactions can attract fraudulent schemes. Typical forms include fake or unauthorised crypto-assets imitating established ones, phishing attempts, deceptive airdrops, or social-engineering attacks. Investors should exercise caution and verify the authenticity of counterparties and information sources.

6. Legal and regulatory reclassification risk

Legislative or regulatory changes in the European Union or in the Member State where the crypto-asset is admitted to trading may alter its legal classification, permitted uses, or tradability. In third countries, the crypto-asset may be treated as a financial instrument or security, which can restrict its offering, trading, or custody.

7. Absence of investor protection

The crypto-asset is not covered by investor-compensation or deposit-guarantee schemes. In the event of loss, fraud, or insolvency of a service provider, holders may have no access to recourse mechanisms typically available in regulated financial markets.

8. Counterparty risk

Reliance on third-party exchanges, custodians, or intermediaries exposes holders to operational failures, insolvency, or fraud of these parties. Investors should conduct due diligence on service providers, as their failure may lead to the partial or total loss of held assets.

9. Reputational risk

Negative publicity related to security incidents, misuse of blockchain technology, or associations with illicit activity can damage public confidence and reduce the crypto-asset's market value.

10. Community and sentiment risk

Because the crypto-asset's perceived relevance and expected future use depend largely on community engagement and the prevailing sentiment, a loss of public interest, negative coverage or reduced activity of key contributors can materially reduce market demand.

11. Macroeconomic and interest-rate risk

Fluctuations in interest rates, exchange rates, general market conditions, or overall market volatility can influence investor sentiment towards digital assets and affect the crypto-asset’s market value.

12. Taxation risk

Tax treatment varies across jurisdictions. Holders are individually responsible for complying with all applicable tax laws, including the reporting and payment of taxes arising from the acquisition, holding, or disposal of the crypto-asset.

13. Anti-money-laundering and counter-terrorist-financing risk

Wallet addresses or transactions connected to the crypto-asset may be linked to sanctioned or illicit activity. Regulatory responses to such findings may include transfer restrictions, report obligations, or the freezing of assets on certain venues.

14. Market-abuse risk

Due to limited oversight and transparency, crypto-assets may be vulnerable to market-abuse practices such as spoofing, pump-and-dump schemes, or insider trading. Such activities can distort prices and expose holders to sudden losses.

15. Legal ownership and jurisdictional risk

Depending on the applicable law, holders of the crypto-asset may not have enforceable ownership rights or effective legal remedies in cases of disputes, fraud, or service failure. In certain jurisdictions, access to exchanges or interfaces may be restricted by regulatory measures, even if on-chain transfer remains technically possible.

16. Concentration risk

A large proportion of the total supply may be held by a small number of holders. This can enable market manipulation, governance dominance, or sudden large-scale liquidations that adversely affect market stability, price levels, and investor confidence.

I.4 Project implementation-related risks

As this white paper relates to the admission to trading of the crypto-asset, the following risk description reflects general implementation risks on the crypto-asset service provider's side typically associated with crypto-asset projects. The party admitting the asset to trading is not involved in the project’s implementation and does not assume responsibility for its governance, funding, or execution.

Delays, failures, or changes in the implementation of the project as outlined in its public roadmap or technical documentation may negatively impact the perceived credibility or usability of the crypto-asset. This includes risks related to project governance, resource allocation, technical delivery, and team continuity.

Key-person risk: The project may rely on a limited number of individuals for development, maintenance, or strategic direction. The departure, incapacity, or misalignment of these individuals may delay or derail the implementation.

Timeline and milestone risk: Project milestones may not be met as announced. Delays in feature releases, protocol upgrades, or external integrations can undermine market confidence and affect the adoption, use, or value of the crypto-asset.

Delivery risk: Even if implemented on time, certain functionalities or integrations may not perform as intended or may be scaled back during execution, limiting the token's practical utility.

I.5 Technology-related risks

As this white paper relates to the admission to trading of the crypto-asset, the following risks concern the underlying distributed ledger technology (DLT), its supporting infrastructure, and related technical dependencies. Failures or vulnerabilities in these systems may affect the availability, integrity, or transferability of the crypto-asset.

1. Blockchain dependency risk

The functionality of the crypto-asset depends on the continuous and stable operation of the blockchain(s) on which it is issued. Network congestion, outages, or protocol errors may temporarily or permanently disrupt on-chain transactions. Extended downtime or degradation in network performance can affect trading, settlement, or usability of the crypto-asset.

2. Smart contract vulnerability risk

The smart contract that defines the crypto-asset's parameters or governs its transfers may contain coding errors or security vulnerabilities. Exploitation of such weaknesses can result in unintended token minting, permanent loss of funds, or disruption of token functionality. Even after external audits, undetected vulnerabilities may persist due to the immutable nature of deployed code.

3. Wallet and key-management risk

The custody of crypto-assets relies on secure private key management. Loss, theft, or compromise of private keys results in irreversible loss of access. Custodians, trading venues, or wallet providers may be targeted by cyberattacks. Compatibility issues between wallet software and changes to the blockchain protocol (e.g. network upgrades) can further limit user access or the ability to transfer the crypto-asset.

Outdated or vulnerable wallet software:

Users relying on outdated, unaudited, or unsupported wallet software may face compatibility issues, security vulnerabilities, or failures when interacting with the blockchain. Failure to update wallet software in line with protocol developments can result in transaction errors, loss of access, or exposure to known exploits.

4. Network security risks

Attack Risks: Blockchains may be subject to denial-of-service (DoS) attacks, 51% attacks, or other exploits targeting the consensus mechanism. These can delay transactions, compromise finality, or disrupt the accurate recording of transfers.

Centralization Concerns: Despite claims of decentralisation, a relatively small number of validators or a high concentration of stake may increase the risk of collusion, censorship, or coordinated network downtime, which can affect the resilience and operational reliability of the crypto-asset.

5. Bridge and interoperability risk

Where tokens can be bridged or wrapped across multiple blockchains, vulnerabilities in bridge protocols, validator sets, or locking mechanisms may result in loss, duplication, or misrepresentation of assets. Exploits or technical failures in these systems can instantly impact circulating supply, ownership claims, or token fungibility across chains.

6. Forking and protocol-upgrade risk

Network upgrades or disagreements among node operators or validators can result in blockchain “forks”, where the blockchain splits into two or more incompatible versions that continue separately from a shared past. This may lead to duplicate token representations or incompatibilities between exchanges and wallets. Until consensus stabilises, trading or transfers may be disrupted or misaligned. Such situations may be difficult for retail holders to navigate, particularly when trading platforms or wallets display inconsistent token information.

7. Economic-layer and abstraction risk

Mechanisms such as gas relayers, wrapped tokens, or synthetic representations may alter the transaction economics of the underlying token. Changes in transaction costs, token demand, or utility may reduce its usage and weaken both its economic function and perceived value within its ecosystem.

8. Spam and network-efficiency risk

High volumes of low-value (“dust”) or automated transactions may congest the network, slow validation times, inflate ledger size, and raise transaction costs. This can impair performance, reduce throughput, and expose address patterns to analysis, thereby reducing network efficiency and privacy.

9. Front-end and access-interface risk

If users rely on centralised web interfaces or hosted wallets to interact with the blockchain, service outages, malicious compromises, or domain expiries affecting these interfaces may block access to the crypto-asset, even while the blockchain itself remains fully functional. Dependence on single web portals introduces a critical point of failure outside the DLT layer.

10. Decentralisation claim risk

While the technical infrastructure may appear distributed, the actual governance or economic control of the project may lie with a small set of actors. This disconnect between marketing claims and structural reality can lead to regulatory scrutiny, reputational damage, or legal uncertainty – especially if the project is presented as 'community-governed' without substantiation.

I.6 Mitigation measures

None.

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

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

S.1 Name

Crypto Risk Metrics GmbH

S.2 Relevant legal entity identifier

39120077M9TG0O1FE242

S.3 Name of the cryptoasset

Stellar Lumen

S.4 Consensus Mechanism

The crypto-asset in scope is implemented on the Stellar network following the standards described below.

The following applies to Stellar:

Stellar uses a unique consensus mechanism known as the Stellar Consensus Protocol (SCP).

Core Concepts:

1. Federated Byzantine Agreement (FBA):

- SCP is built on the principles of Federated Byzantine Agreement (FBA), which allows decentralized, leaderless consensus without the need for a closed system of trusted participants. - Quorum Slices: Each node in the network selects a set of other nodes (quorum slice) that it trusts. Consensus is achieved when these slices overlap and collectively agree on the transaction state.

2. Nodes and Validators:

- Nodes: Nodes running the Stellar software participate in the network by validating transactions and maintaining the ledger.

- Validators: Nodes that are responsible for validating transactions and reaching consensus on the state of the ledger. Consensus Process

3. Transaction Validation:

- Transactions are submitted to the network and nodes validate them based on predetermined rules, such as sufficient balances and valid signatures.

4. Nomination Phase:

- Nomination: Nodes nominate values (proposed transactions) that they believe should be included in the next ledger. Nodes communicate their nominations to their quorum slices.

- Agreement on Nominations: Nodes vote on the nominated values, and through a process of voting and federated agreement, a set of candidate values emerges. This phase continues until nodes agree on a single value or a set of values.

5. Ballot Protocol (Voting and Acceptance): Balloting:

- The agreed-upon values from the nomination phase are then put into ballots. Each ballot goes through multiple rounds of voting, where nodes vote to either accept or reject the proposed values.

- Federated Voting: Nodes exchange votes within their quorum slices, and if a value receives sufficient votes across overlapping slices, it moves to the next stage.

- Acceptance and Confirmation: If a value gathers enough votes through multiple stages (prepare, confirm, externalize), it is accepted and externalized as the next state of the ledger.

6. Ledger Update:

Once consensus is reached, the new transactions are recorded in the ledger. Nodes update their copies of the ledger to reflect the new state. Security and Economic Incentives

7. Trust and Quorum Slices:

Nodes are free to choose their own quorum slices, which provides flexibility and decentralization. The overlapping nature of quorum slices ensures that the network can reach consensus even if some nodes are faulty or malicious.

8. Stability and Security:

SCP ensures that the network can achieve consensus efficiently without relying on energy-intensive mining processes. This makes it environmentally friendly and suitable for high-throughput applications.

9. Incentive Mechanisms:

Unlike Proof of Work (PoW) or Proof of Stake (PoS) systems, Stellar does not rely on direct economic incentives like mining rewards. Instead, the network incentivizes participation through the intrinsic value of maintaining a secure, efficient, and reliable payment network.

S.5 Incentive Mechanisms and Applicable Fees

The crypto-asset in scope is implemented on the Stellar network following the standards described below.

The following applies to Stellar:

Stellar’s consensus mechanism, the Stellar Consensus Protocol (SCP), is designed to achieve decentralized and secure transaction validation through a federated Byzantine agreement (FBA) model. Unlike Proof of Work (PoW) or Proof of Stake (PoS) systems, Stellar does not rely on direct economic incentives like mining rewards. Instead, it ensures network security and transaction validation through intrinsic network mechanisms and transaction fees.

Incentive Mechanisms:

1. Quorum Slices and Trust:

- Quorum Slices: Each node in the Stellar network selects other nodes it trusts to form a quorum slice. Consensus is achieved through the intersection of these slices, creating a robust and decentralized trust network.

- Federated Voting: Nodes communicate their votes within their quorum slices, and through multiple rounds of federated voting, they agree on the transaction state. This process ensures that even if some nodes are compromised, the network can still achieve consensus securely.

2. Intrinsic Value and Participation:

- Network Value: The intrinsic value of participating in a secure, efficient, and reliable payment network incentivizes nodes to act honestly and maintain network security. Organizations and individuals running nodes benefit from the network's functionality and the ability to facilitate transactions.

- Decentralization: By allowing nodes to choose their own quorum slices, Stellar promotes decentralization, reducing the risk of central points of failure and making the network more resilient to attacks. Fees on the Stellar Blockchain

3. Transaction Fees:

- Flat Fee Structure: Each transaction on the Stellar network incurs a flat fee of 0.00001 XLM (known as a base fee). This low and predictable fee structure makes Stellar suitable for micropayments and high-volume transactions.

- Spam Prevention: The transaction fee serves as a deterrent against spam attacks. By requiring a small fee for each transaction, Stellar ensures that the network remains efficient and that resources are not wasted on processing malicious or frivolous transactions.

4. Operational Costs:

- Minimal Fees: The minimal transaction fees on Stellar not only prevent spam but also cover the operational costs of running the network. This ensures that the network can sustain itself without placing a significant financial burden on users.

5. Reserve Requirements:

- Account Reserves: To create a new account on the Stellar network, a minimum balance of 1 XLM is required. This reserve requirement prevents the creation of an excessive number of accounts, further protecting the network from spam and ensuring efficient resource usage.

- Trustline and Offer Reserves: Additional reserve requirements exist for creating trustlines and offers on the Stellar decentralized exchange (DEX). These reserves help maintain network integrity and prevent abuse.

S.6 Beginning of the period to which the disclosure relates

2025-01-14

S.7 End of the period to which the disclosure relates

2026-01-14

S.8 Energy consumption

52560.00000 kWh/a

S.9 Energy consumption sources and methodologies

For the calculation of energy consumptions, the so called 'bottom-up' approach is being used. The nodes are considered to be the central factor for the energy consumption of the network. These assumptions are made on the basis of empirical findings through the use of public information sites, open-source crawlers and crawlers developed in-house. The main determinants for estimating the hardware used within the network are the requirements for operating the client software. The energy consumption of the hardware devices was measured in certified test laboratories. When calculating the energy consumption, we used - if available - the Functionally Fungible Group Digital Token Identifier (FFG DTI) to determine all implementations of the asset of question in scope and we update the mappings regulary, based on data of the Digital Token Identifier Foundation. The information regarding the hardware used and the number of participants in the network is based on assumptions that are verified with best effort using empirical data. In general, participants are assumed to be largely economically rational. As a precautionary principle, we make assumptions on the conservative side when in doubt, i.e. making higher estimates for the adverse impacts.

S.10 Renewable energy consumption

32.9051832746 %

S.11 Energy intensity

0.00006 kWh

S.12 Scope 1 DLT GHG emissions – Controlled

0.00000 tCO2e/a

S.13 Scope 2 DLT GHG emissions – Purchased

17.30628 tCO2e/a

S.14 GHG intensity

0.00002 kgCO2e

S.15 Key energy sources and methodologies

To determine the proportion of renewable energy usage, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from Our World in Data, see citation. The intensity is calculated as the marginal energy cost wrt. one more transaction. Ember (2025); Energy Institute - Statistical Review of World Energy (2024) - with major processing by Our World in Data. “Share of electricity generated by renewables - Ember and Energy Institute” [dataset]. Ember, “Yearly Electricity Data Europe”; Ember, “Yearly Electricity Data”; Energy Institute, “Statistical Review of World Energy” [original data]. Retrieved from https://ourworldindata.org/grapher/share-electricity-renewables.

S.16 Key GHG sources and methodologies

To determine the GHG Emissions, the locations of the nodes are to be determined using public information sites, open-source crawlers and crawlers developed in-house. If no information is available on the geographic distribution of the nodes, reference networks are used which are comparable in terms of their incentivization structure and consensus mechanism. This geo-information is merged with public information from Our World in Data, see citation. The intensity is calculated as the marginal emission wrt. one more transaction. Ember (2025); Energy Institute - Statistical Review of World Energy (2024) - with major processing by Our World in Data. “Carbon intensity of electricity generation - Ember and Energy Institute” [dataset]. Ember, “Yearly Electricity Data Europe”; Ember, “Yearly Electricity Data”; Energy Institute, “Statistical Review of World Energy” [original data]. Retrieved from https://ourworldindata.org/grapher/carbon-intensity-electricity Licenced under CC BY 4.0.

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